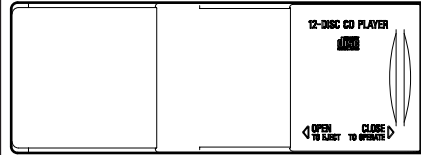


Service Manual

Pioneer

GM



ORDER NO.
CRT2290

MULTI-COMPACT DISC PLAYER

CDX-M1026ZG

X1H/UC
COMPACT
disc
DIGITAL AUDIO

VEHICLE	DESTINATION	PRODUCED AFTER	GM PART No.	ID No.	PIONEER MODEL No.
Oldsmobile, Buick, Pontiac	U.S.A., CANADA	February 1999	25659167		CDX-M1026ZG/X1H/UC

- See the separate manual CX-653(CRT1916) for the CD mechanism description, disassembly and circuit description.
- The CD mechanism employed in this model is one of C6 series.

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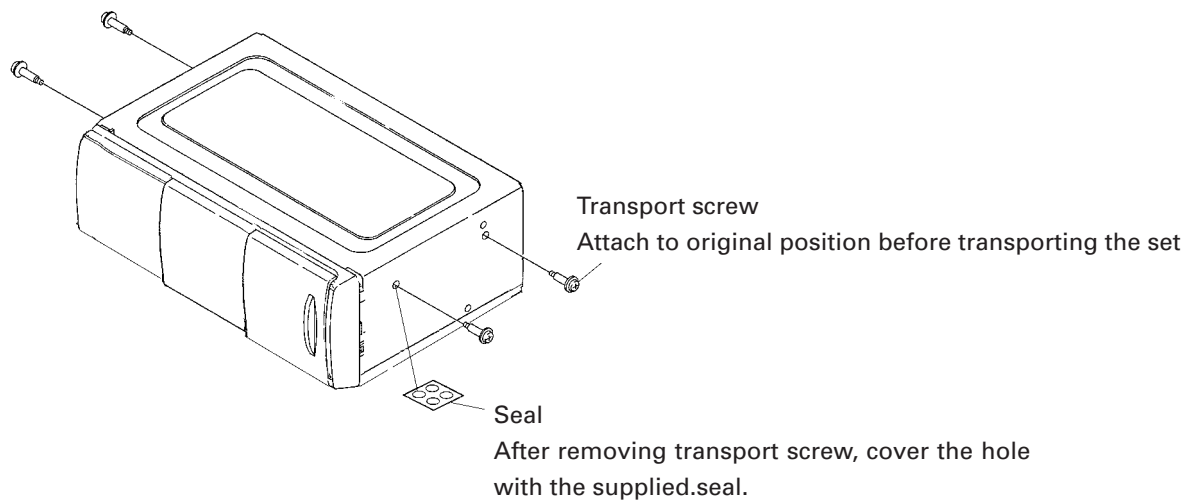
K-ZZD. FEB. 1999 Printed in Japan

● CD Player Service Precautions

1. For pickup unit(Service)(CXX1235) handling, please refer to "Disassembly"(see page 42).
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).

2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please checking the grating after changing the pickup unit(see page 33) since these screws protects the mechanism during transport, be sure to affix it when it is transported for repair, etc.

● Transportation of multi-CD player



A transport screw has been attached to the set in order to protect it during transportation. After removing the transport screw, cover the hole with the supplied seal. Be sure to remove the transport screw before mounting the set. The removed transport screw should be retained in the accessory bag for use the next time the set is transported.

1. SAFETY INFORMATION

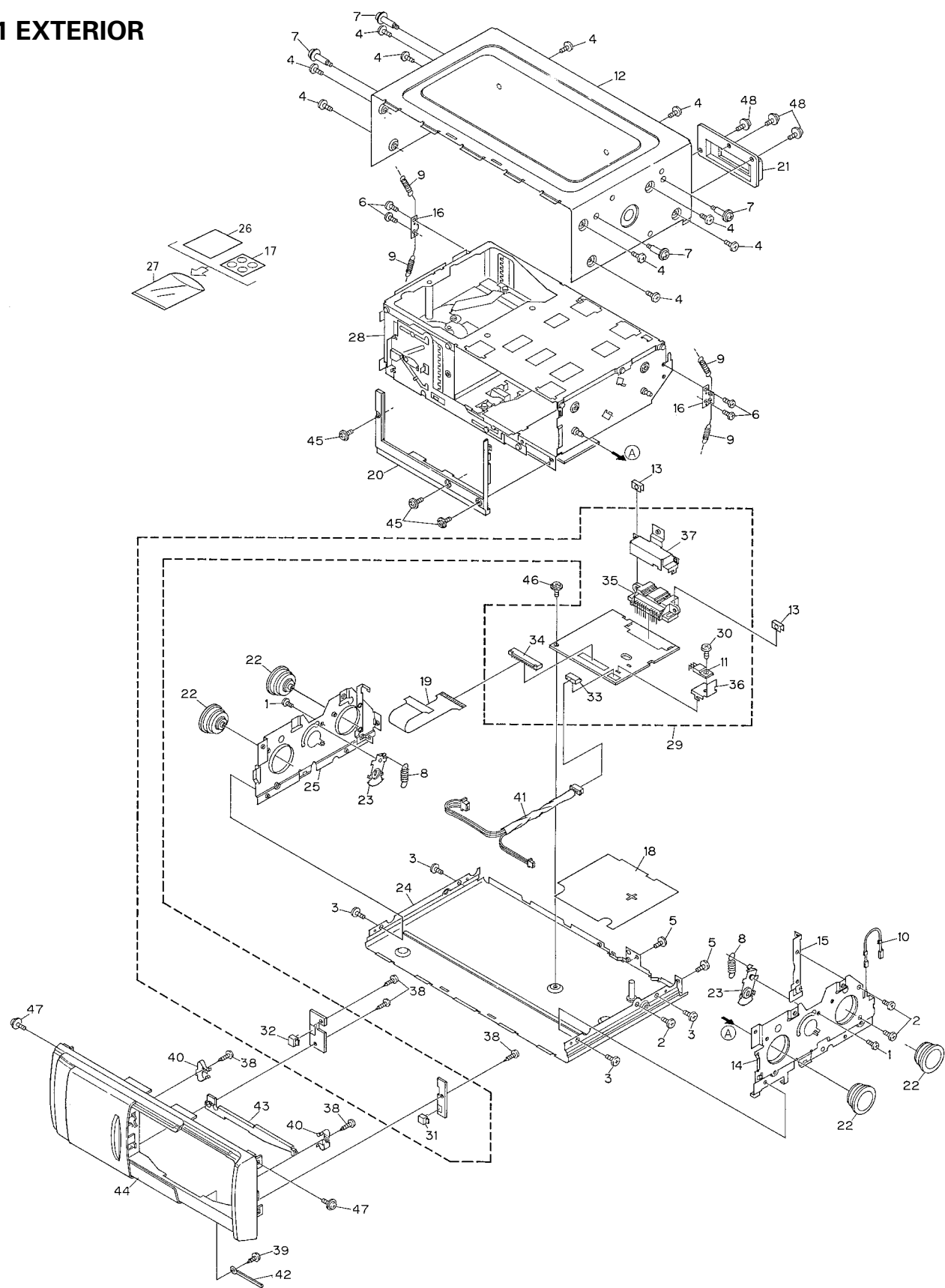
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.

Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

2. EXPLODED VIEWS AND PARTS LIST

2.1 EXTERIOR



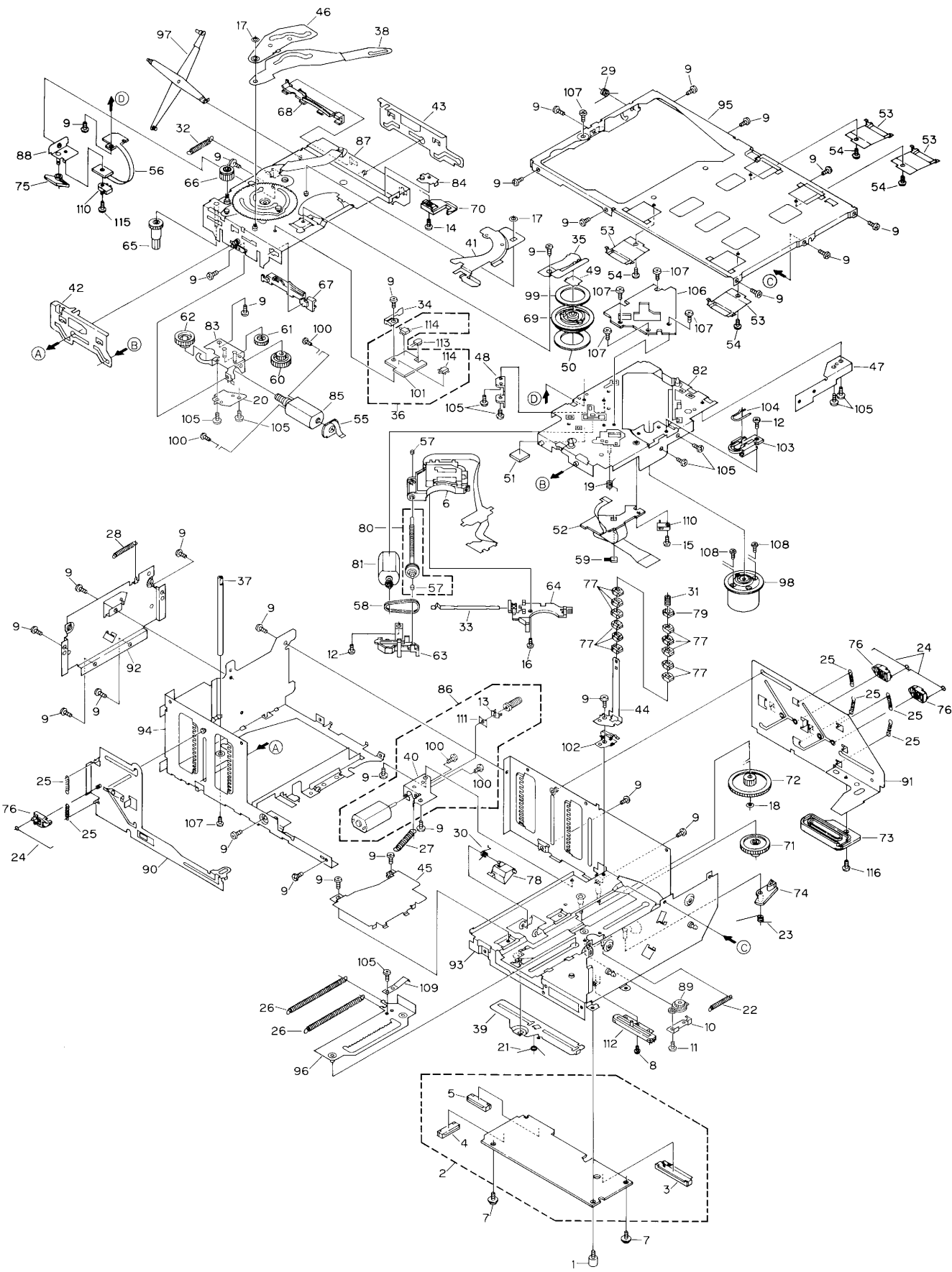
NOTE:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

● EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BMZ20P040FMC	31	Plug(CN1801)	CKS1049
2	Screw	BMZ26P040FMC	32	Plug(CN1802)	CKS1050
3	Screw	BMZ30P040FMC	* 33	Plug(CN1702)	CKS1052
4	Screw	BMZ30P040FZK	34	Connector(CN1701)	CKS2233
5	Screw	CBA1014	35	Connector(CN1102)	CKS2398
6	Screw	CBA1037	36	Holder	CNC6672
7	Screw	CBA1353	37	Holder	CNC6784
8	Spring	CBH1862	38	Screw	BPZ20P060FMC
9	Spring	CBH2171	39	Screw	BPZ26P080FMC
10	Connector	CDE5205	40	Leaf Spring	CBL1286
11	Transistor(Q1952)	2SB1335A	41	Cord Assy	CDE5107
12	Upper Case	CNB2096	42	Clamper	CEF1020
13	Spacer	CNC5536	43	Lighting Conductor	CNV4720
14	Bracket	CNC6782	44	Grille Unit	CXA9439
15	Holder	CNC7211	45	Screw	IMS20P035FZK
16	Holder	CNC7213	46	Screw	IMS26P040FMC
17	Seal	CNM4918	47	Screw	IMS30P040FMC
18	Insulator	CNM4973	48	Screw	IMS30P060FZK
19	PCB	CNP4402			
20	Grille	CNS4146			
21	Cover	CNS4153			
22	Damper	CNV4502			
23	Arm Unit	CXA8606			
24	Lower Case Unit	CXA9466			
25	Bracket Unit	CXB1636			
* 26	Caution Card	HRP1090			
27	Polyethylene Bag	HEG0018			
28	CD Mechanism Module	CXK4551			
29	Extension Unit	HWX2034			
30	Screw	BMZ26P050FMC			

2.2 CD MECHANISM MODULE

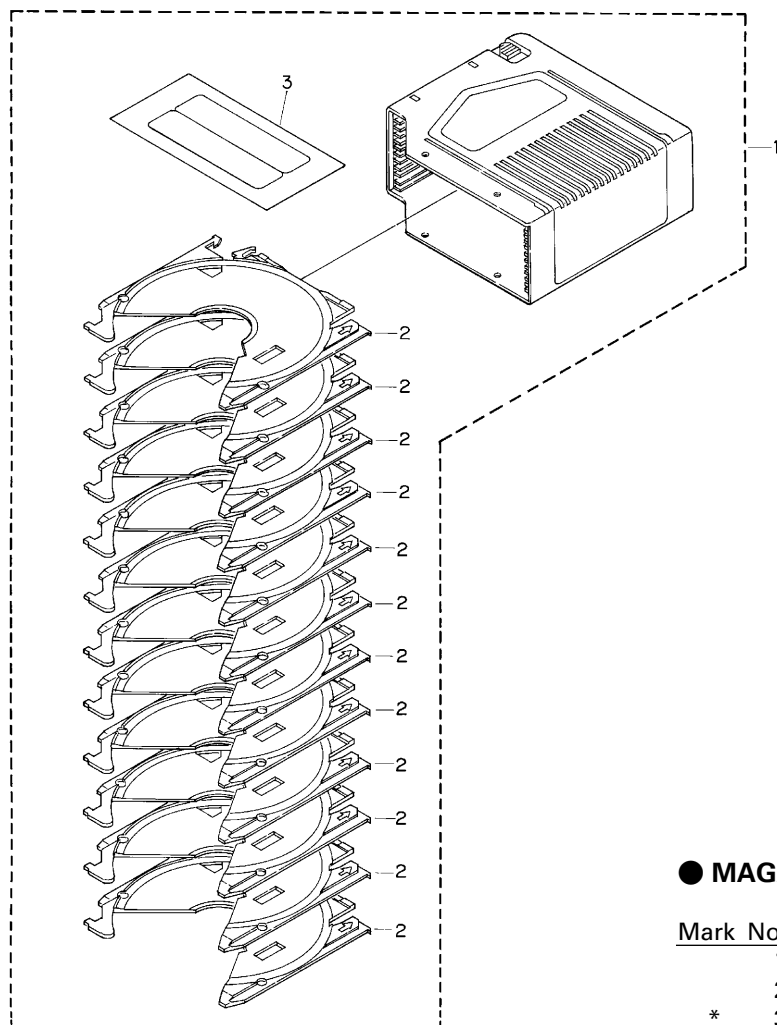


● CD MECHANISM MODULE SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Screw	CBA1369		46	Arm	CNC6799
	2	CD Core Unit	CWX2014	*	47	Holder	CNC6819
	3	Connector(CN701)	CKS1968	*	48	Holder	CNC6827
	4	Connector(CN801)	CKS3484		49	Spacer	CNM4879
	5	Connector(CN101)	CKS3486		50	Sheet	CNM5118
	6	Pickup Unit(Service)	CXX1235	*	51	Sheet	CNM5020
	7	Screw	IMS26P040FMC		52	PCB	CNP4205
	8	Screw	JFZ17P020FNI	*	53	Spring	CBL1304
	9	Screw(M2×2.5)	CBA1037		54	Screw	CBA1387
	10	Spring	CBL1362		55	PCB	CNP4382
	11	Screw(M2×2.5)	CBA1077		56	PCB	CNP4453
	12	Screw(M2×2.5)	CBA1085		57	Bearing	CNR1423
	13	Spring	CBH1353		58	Belt	CNT1053
	14	Screw(M2×4)	CBA1176		59	Photo Transistor(Q851)	PT4800
	15	Screw	CBA1166		60	Gear	CNV5764
	16	Screw(M2×4)	CBA1362		61	Gear	CNV4404
	17	Washer	CBF1002		62	Gear	CNV4406
	18	Washer	CBF1038		63	Cover	CNV4924
	19	Spring	CBH1822		64	Holder	CNV4950
	20	Stoper	CNC8095		65	Gear	CNV5305
	21	Spring	CBH1827		66	Gear	CNV5879
	22	Spring	CBH1828		67	Rail(White)	CNV4419
	23	Spring	CBH1829		68	Rail(Black)	CNV4420
	24	Spring	CBH1853		69	Clamper	CNV5226
	25	Spring	CBH1854		70	Lever	CNV4422
	26	Spring	CBH1867		71	Gear	CNV4423
	27	Spring	CBH1868		72	Gear	CNV4827
	28	Spring	CBH1891		73	Rack	CNV4828
	29	Spring	CBH1892		74	Arm	CNV4426
	30	Spring	CBH1919		75	Arm	CNV4490
	31	Spring	CBH1930		76	Arm	CNV4511
	32	Spring	CBH2091		77	Guide	CNV4597
	33	Spring	CBL1241		78	Arm	CNV4670
	34	Spring	CBL1242		79	Guide	CNV4722
	35	Spring	CBL1388		80	Screw Unit	CXB1270
	36	PCB Unit	CWX2032		81	Motor Unit(M854)(Carriage)	CXB1394
	37	Shaft	CLA2852		82	Chassis Unit	CXB2692
	38	Arm	CNC6181		83	Bracket Unit	CXB4008
	39	Lever	CNC6194		84	Plate Unit	CXB2262
	40	Bracket	CNC6292		85	Motor Unit(M853)(Tray)	CXB1142
	41	Lever	CNC6534		86	Motor Unit(M852)(ELV)	CXB2056
	42	Lever	CNC7975		87	Chassis	CXB3311
	43	Lever	CNC8097		88	Bracket Unit	CXA9211
	44	Holder	CNC6540		89	Damper Unit	CXA7159
	45	Cover	CNC7452		90	Lever Unit	CXB2273

Mark No.	Description	Part No.	Mark No.	Description	Part No.
91	Lever Unit	CXB2493	106	Plate	CNC7076
92	Bracket Unit	CXA9215	107	Screw(M2×2.5)	CBA1041
93	Magazine Holder Unit	CXB2579	108	Screw	JGZ17P022FZK
94	Frame Unit	CXB2271	109	Spring	CBL1305
95	Frame	CNC6917	110	Switch(S853,854)	CSN1012
96	Lever Unit	CXB2275	111	Spacer	CBF1070
97	Arm Unit	CXB2276	112	Volume(VR801)	CCW1021
98	Motor Unit(M851)(Spindle)	CXB1395	113	LED(D851)	CN504-2
99	Plate	CNC6847	114	Switch(S851,852)	CSN1033
100	Screw	JFZ20P025FNI	115	Screw	CBA1054
* 101	PCB	CNP4537	116	Screw	CBA1114
102	Spring	CBL1295			
103	Holder	CNV4761			
104	Spring	CBH1948			
105	Screw(M2×2)	CBA1250			

2.3 MAGAZINE ASSY

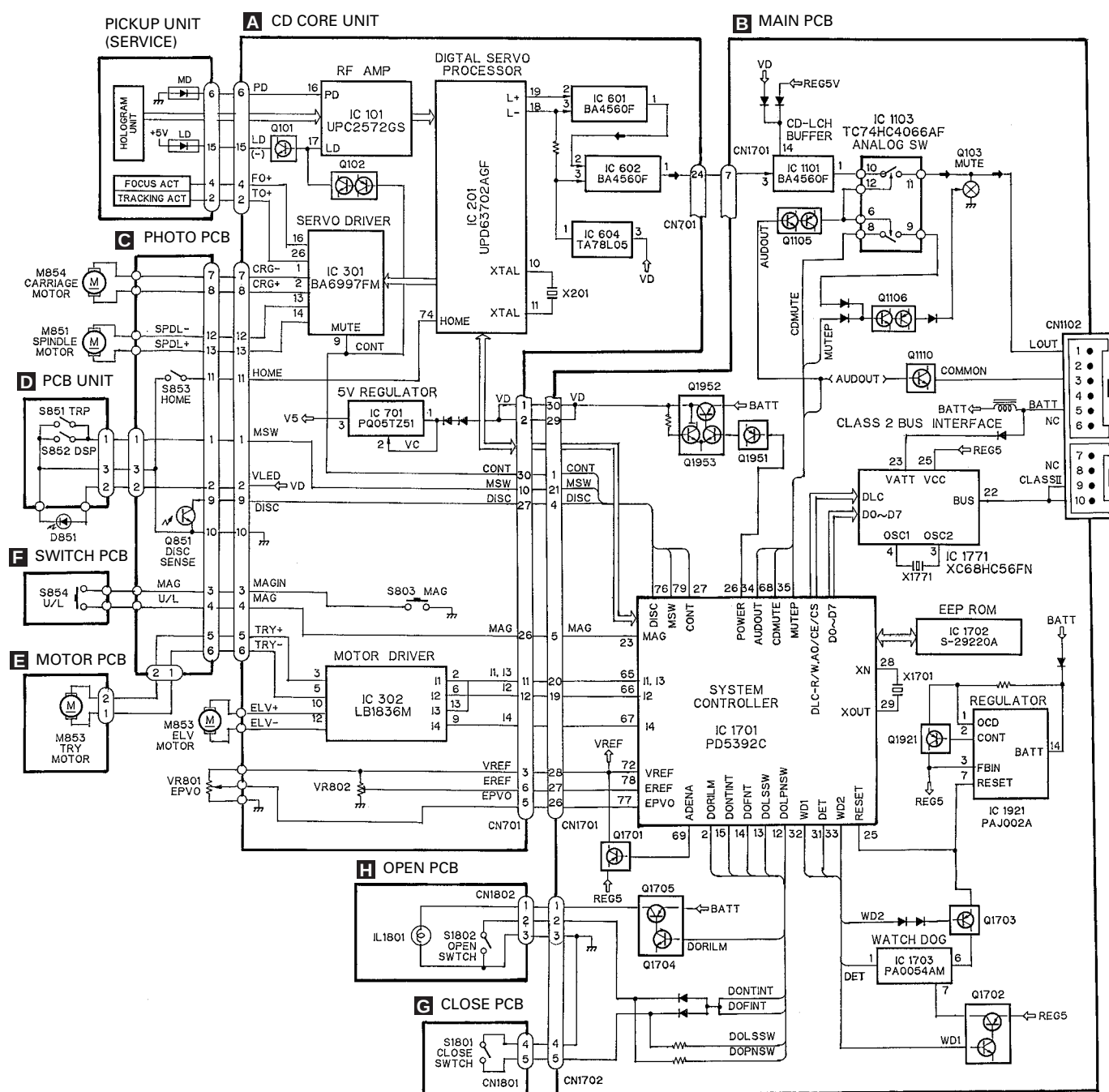


● MAGAZINE ASSY SECTION PARTS LIST

Mark No.	Description	Part No.
1	Magazine Assy	CXB2580
2	Tray	CNV4824
* 3	Label	CRW1367

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

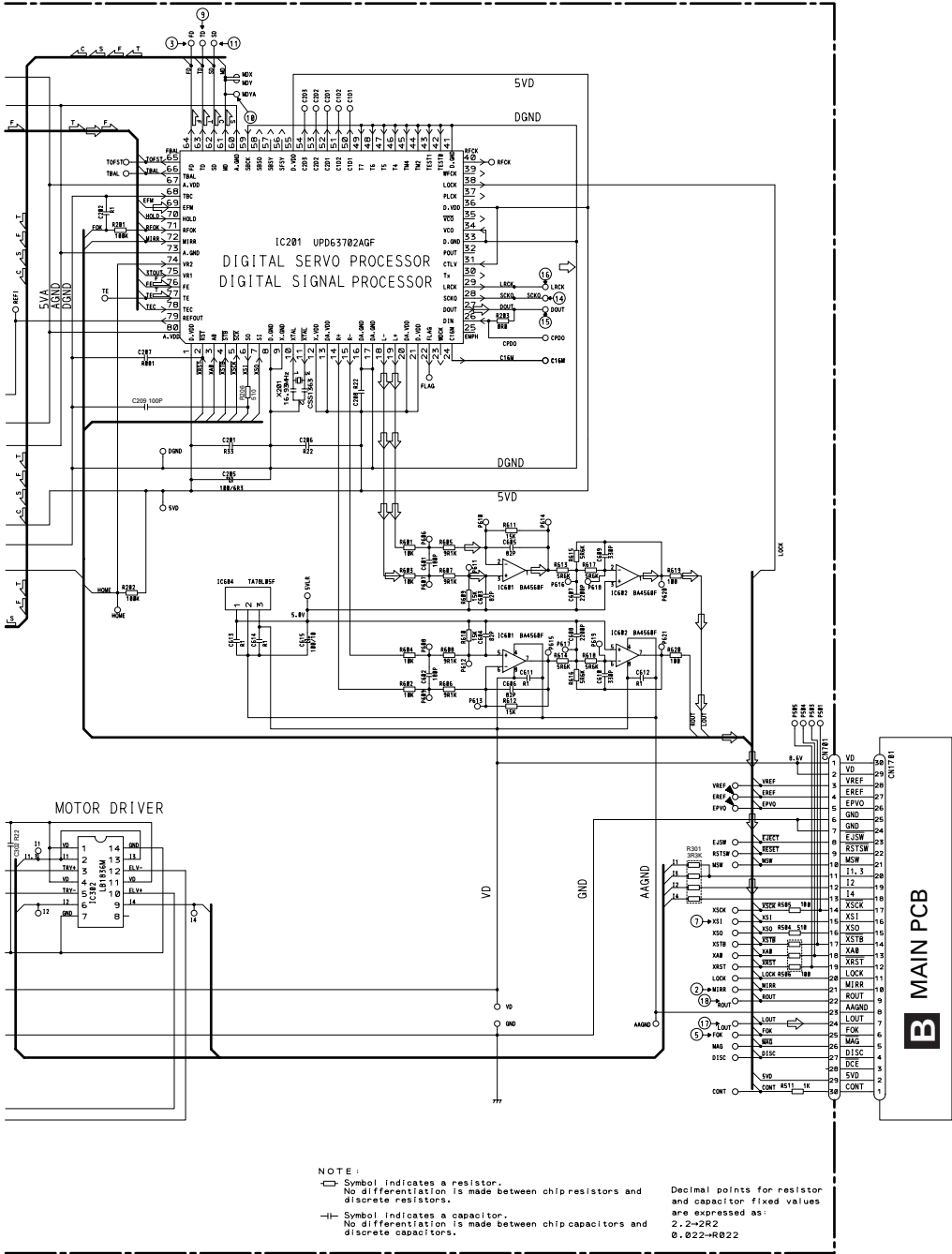
3.1 BLOCK DIAGRAM

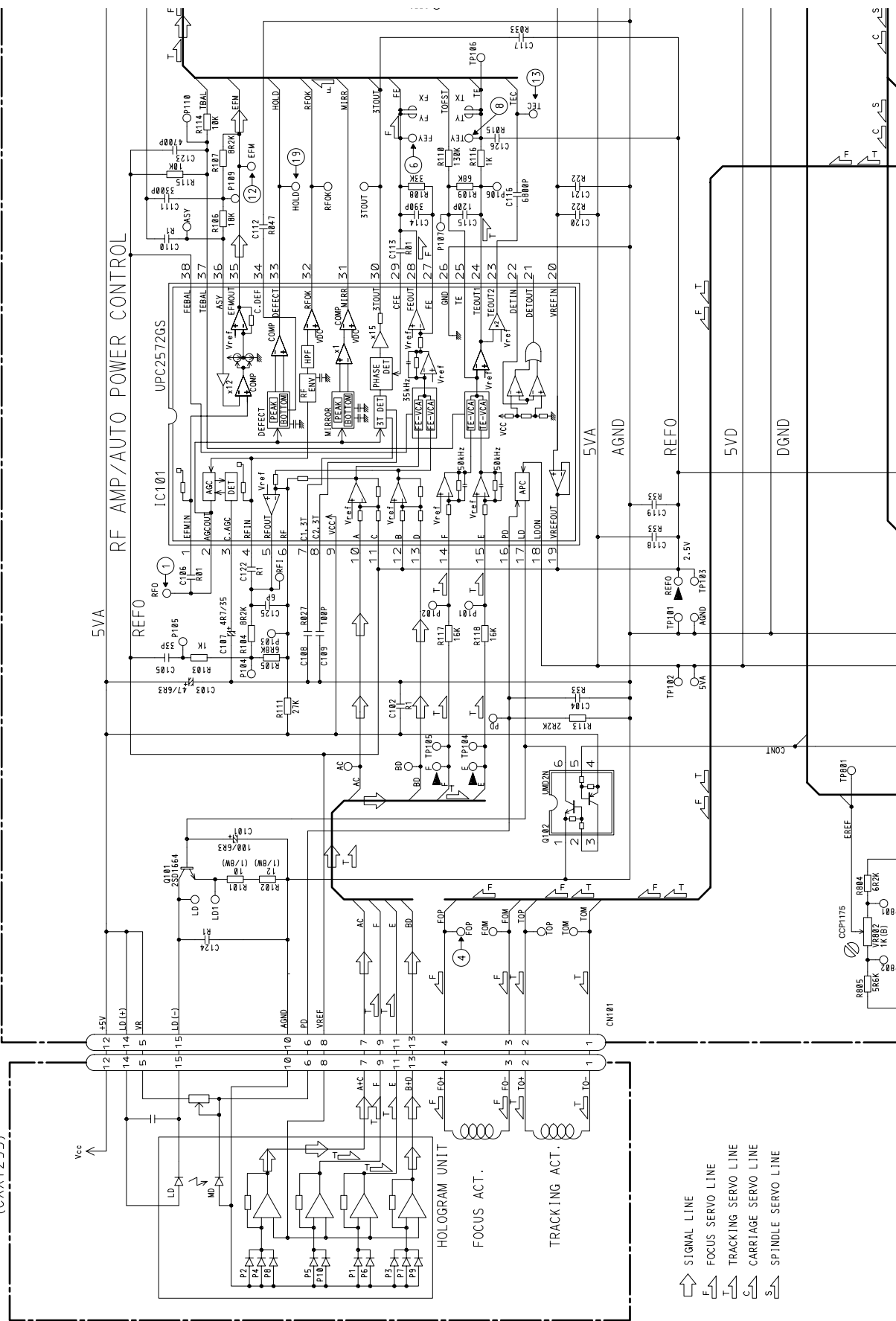


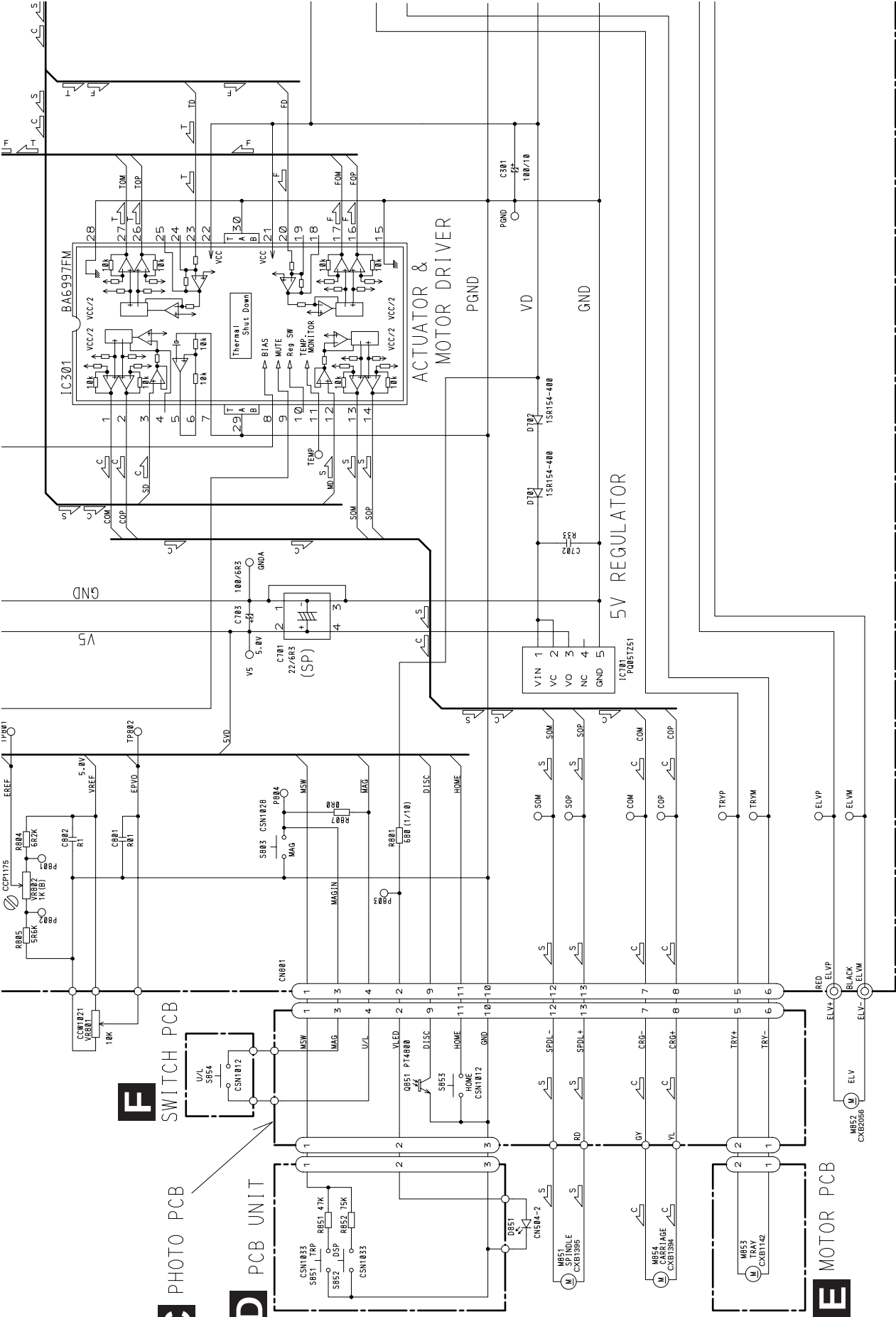
A



A-b







A-a A-b

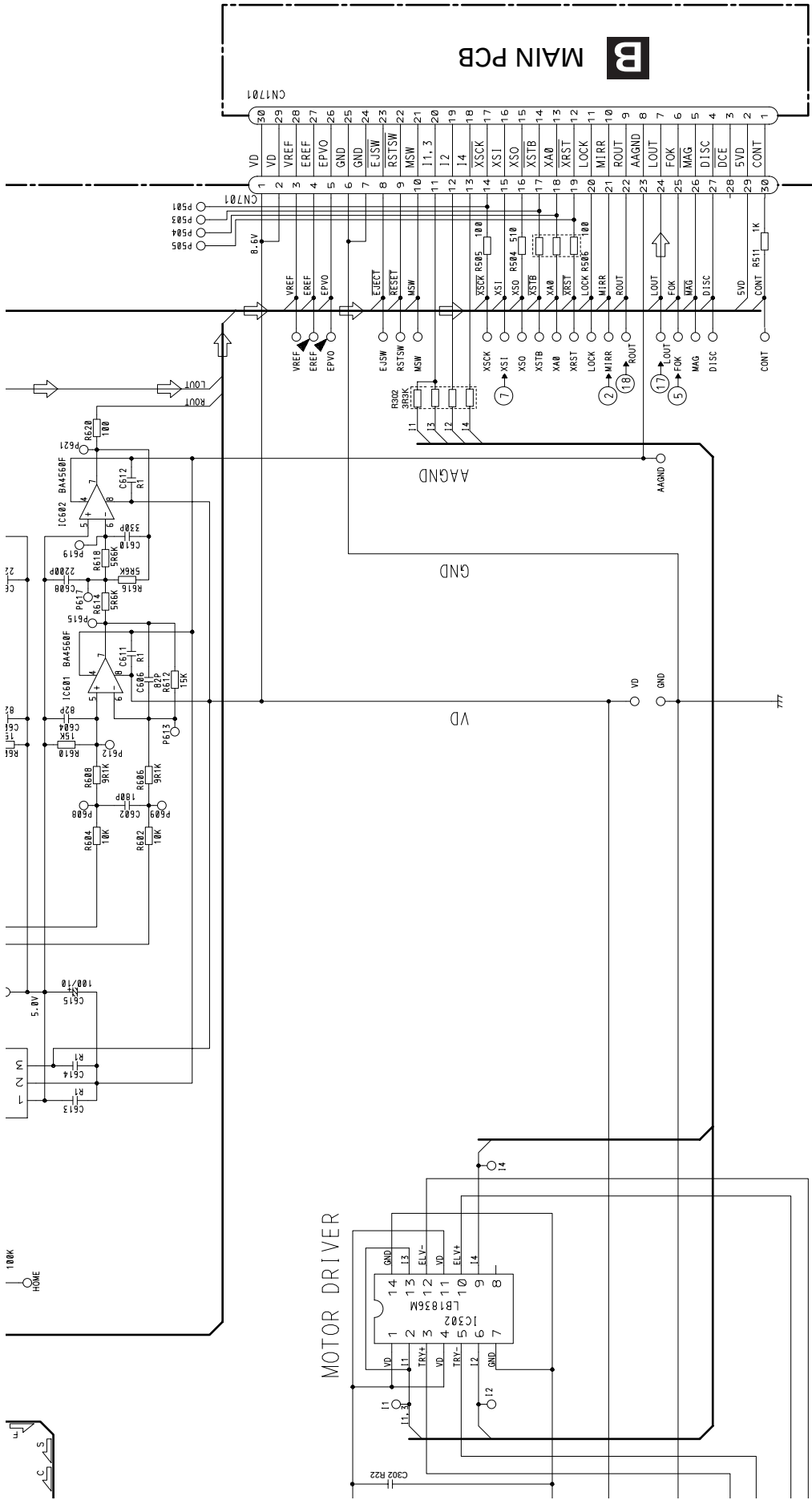
A

B

C

D

A-a C D E F

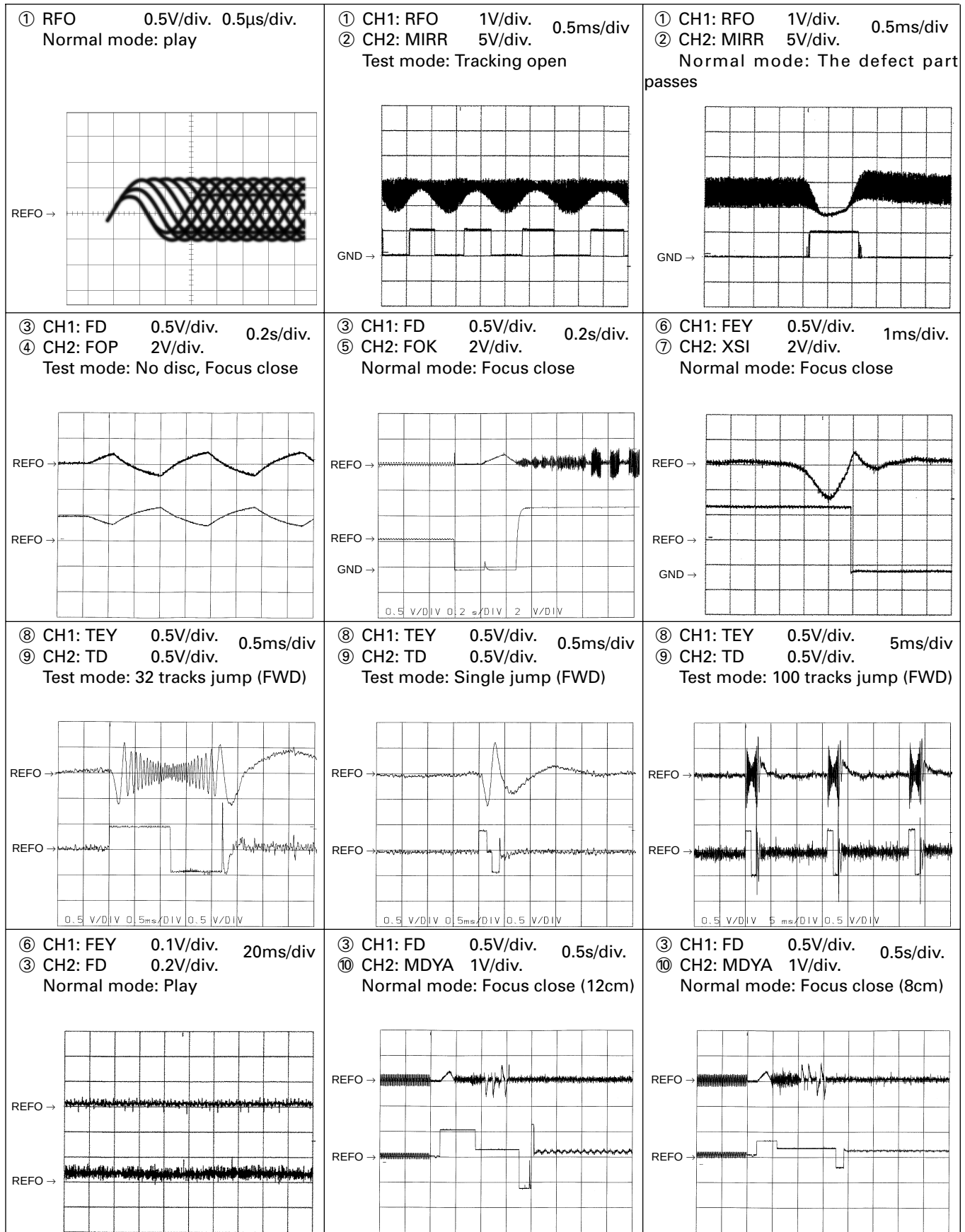


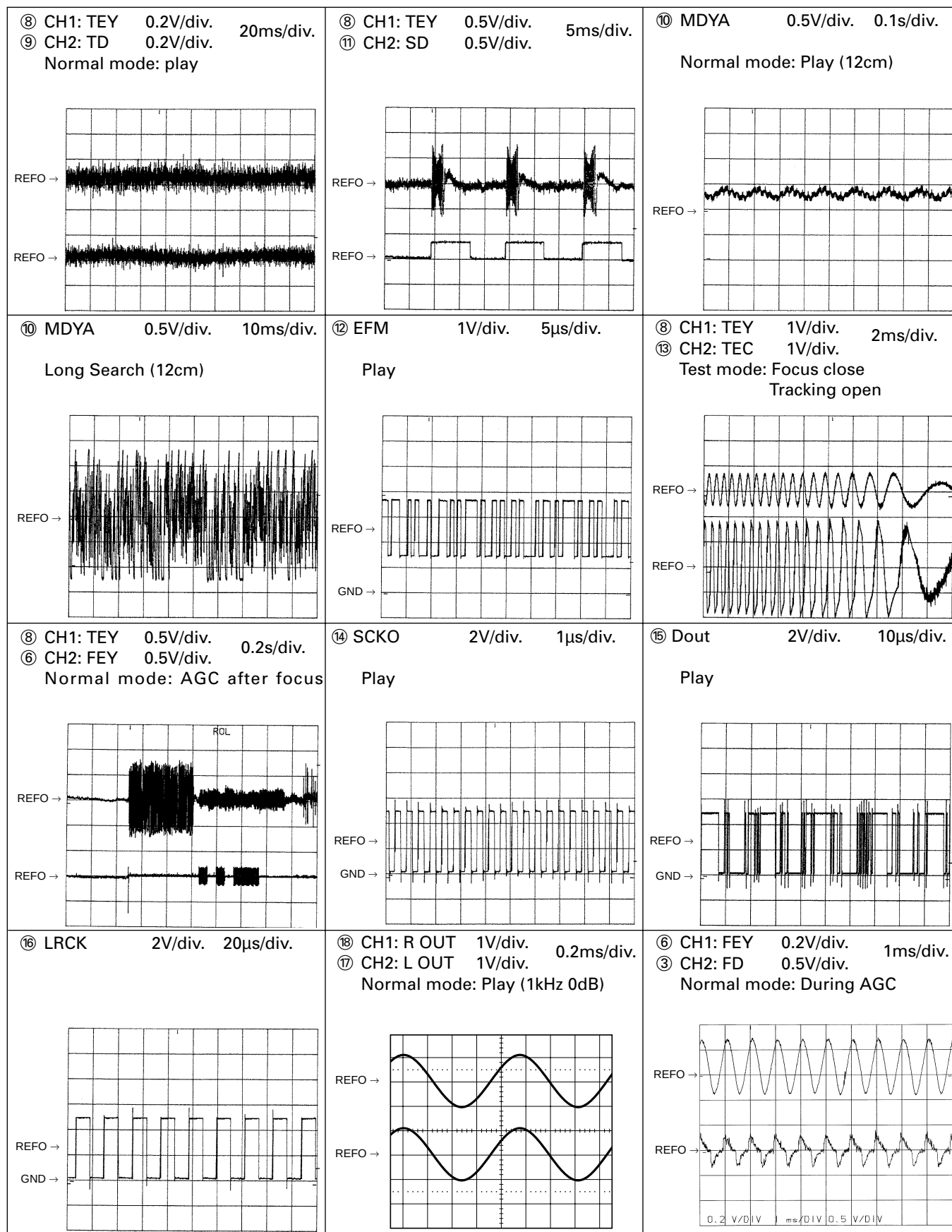
NOTE :
—|— Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
—||— Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

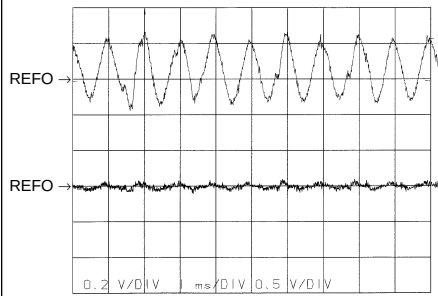
Note:1. The encircled numbers denote measuring pointes in the circuit diagram.
 2. Reference voltage
 REFO:2.5V

● Waveforms

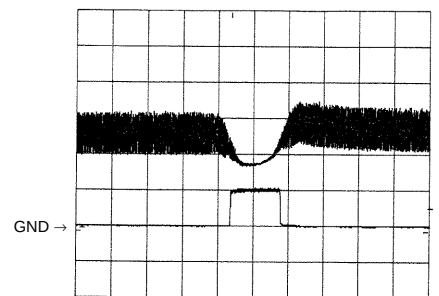




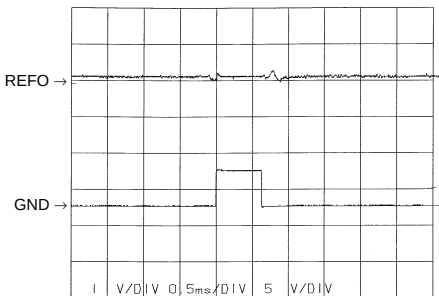
⑧ CH1: TEY 0.2V/div. 1ms/div.
⑨ CH2: TD 0.5V/div.
Normal mode: During AGC



① CH1: RFO 1V/div. 0.5ms/div
⑫ CH2: HOLD 5V/div.
Normal mode: The defect part passes 800μm



③ CH1: FD 1V/div. 0.5ms/div
⑬ CH2: HOLD 5V/div.
Normal mode: The defect part passes 800μm



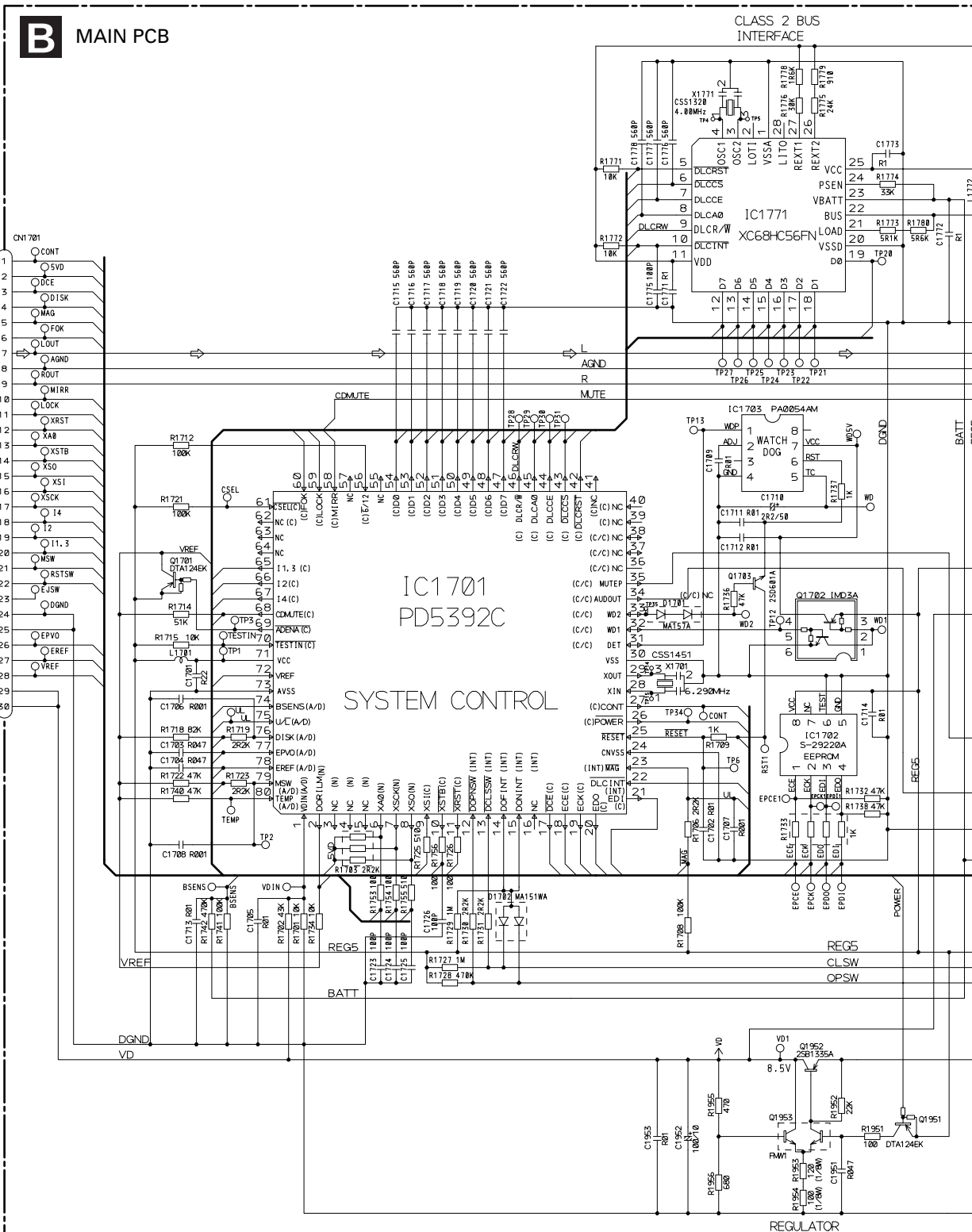
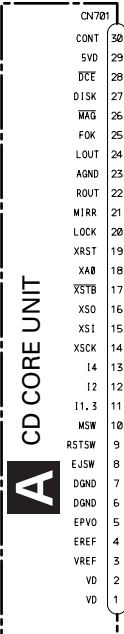
3.3 EXTENSION UNIT

A

B

C

D





C

D

A

1

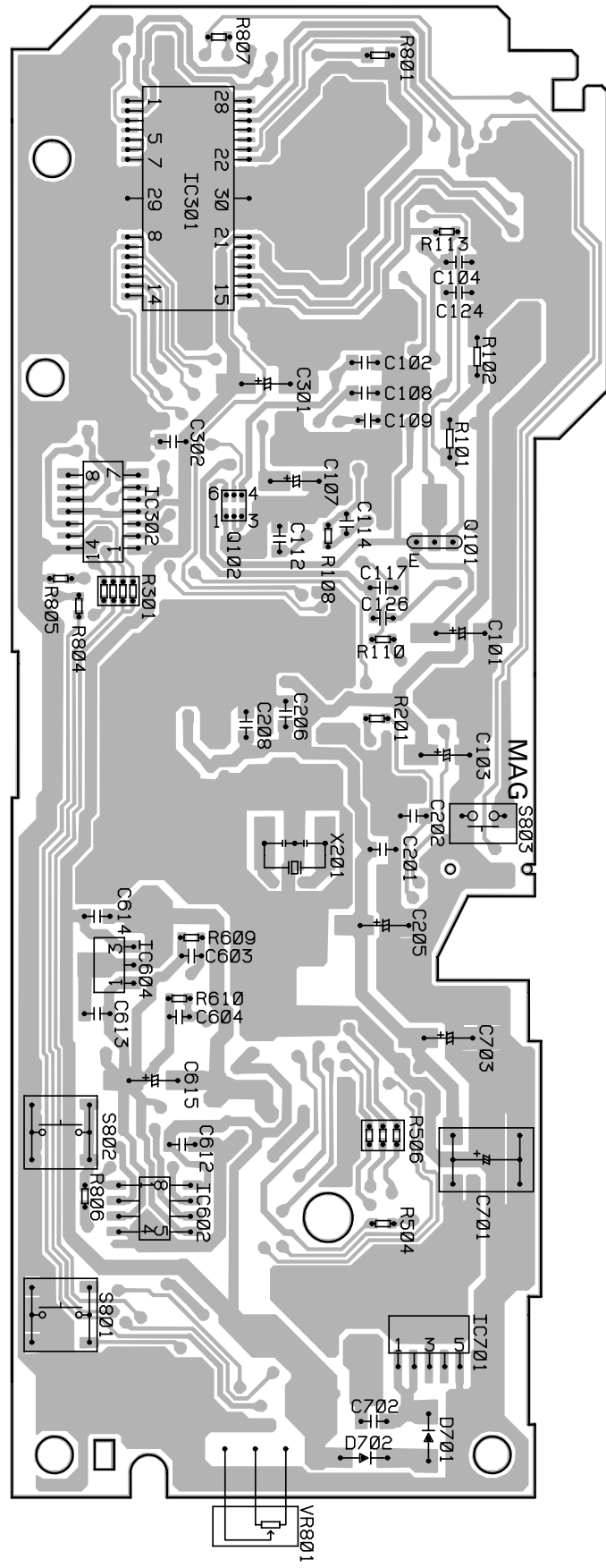
2

- 2



SIDE B

A CD CORE UNIT

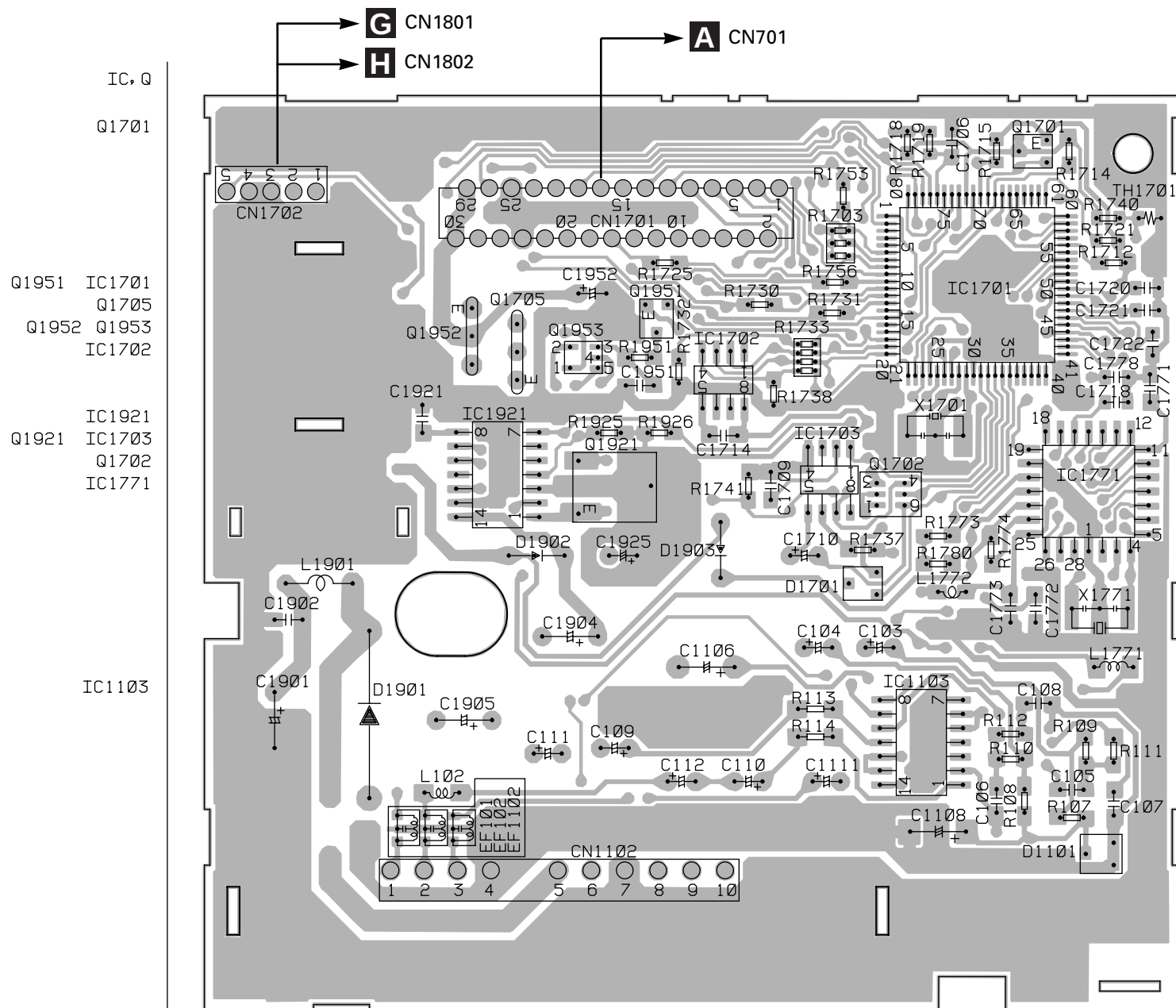


- IC, Q
- Q101
- IC701
- Q102
- IC301
- IC602
- IC604

4.2 MAIN PCB

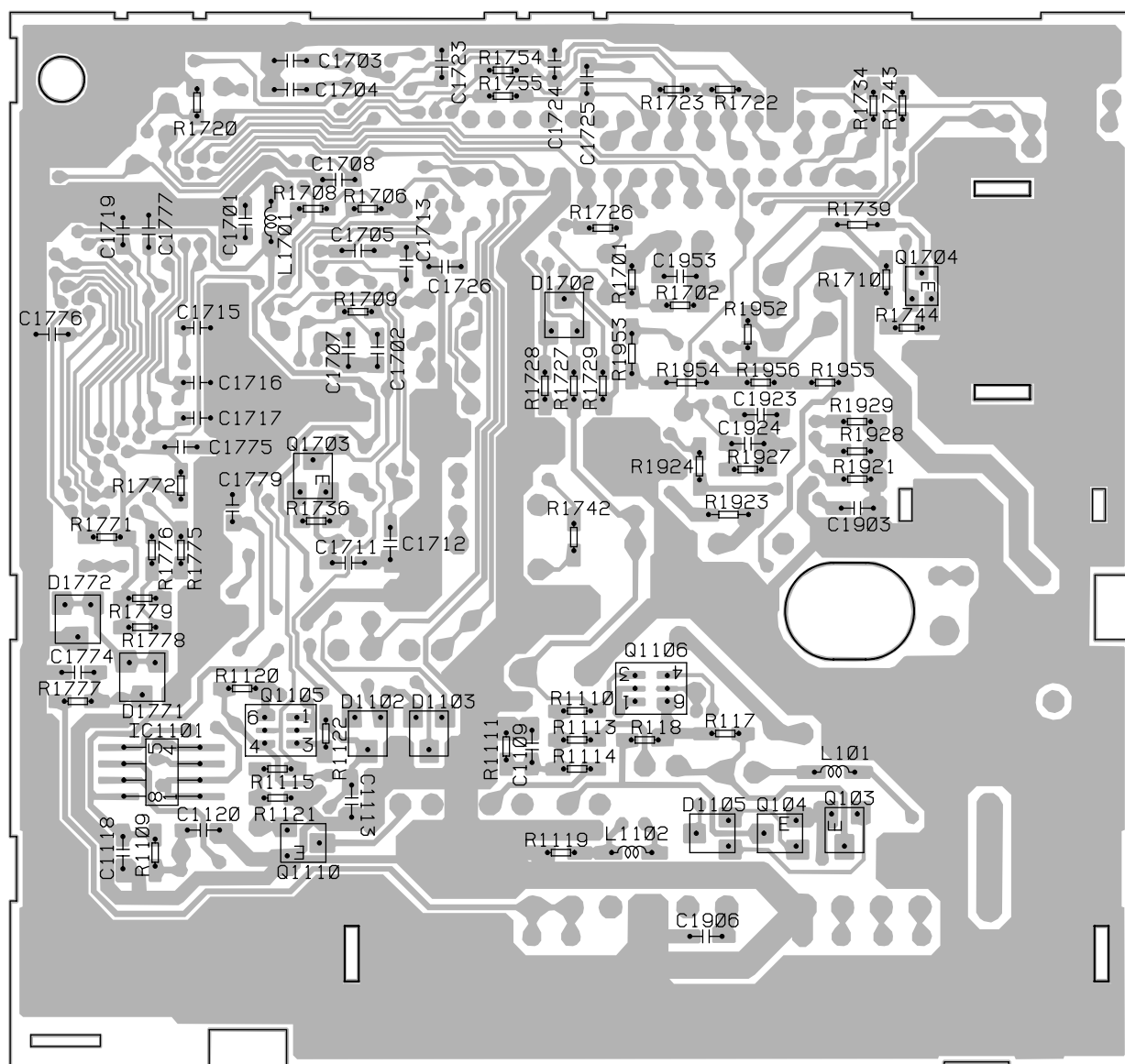
SIDE A

B MAIN PCB



A

B



B

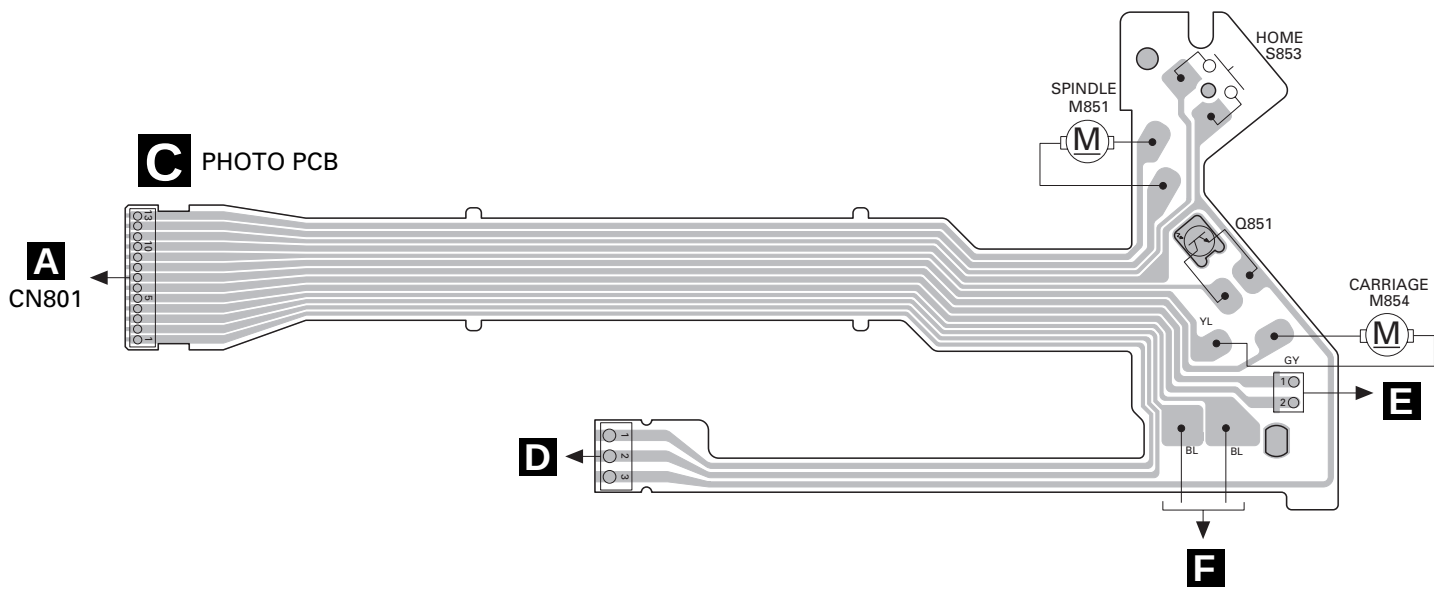
C

D

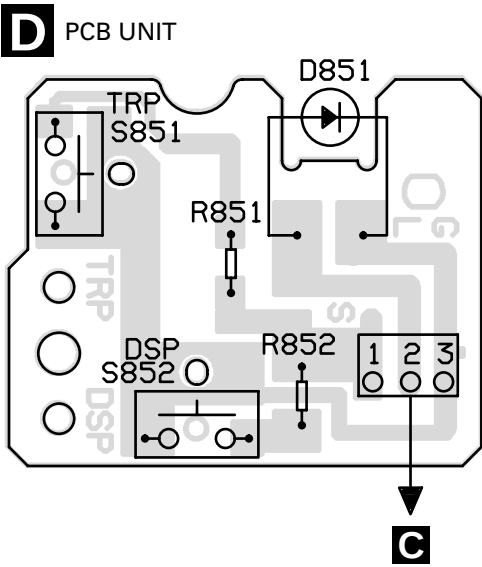
B

4.3 PHOTO PCB

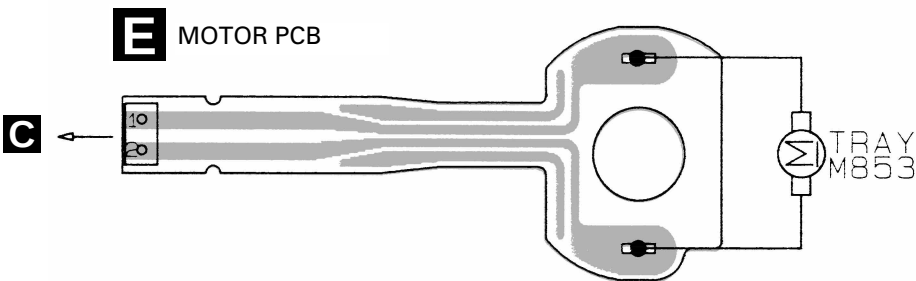
SIDE A



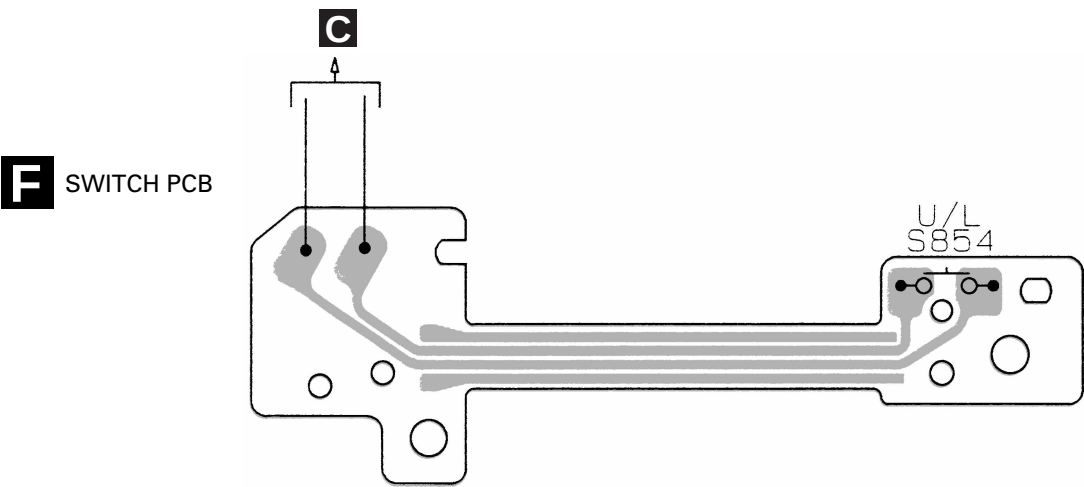
4.4 PCB UNIT



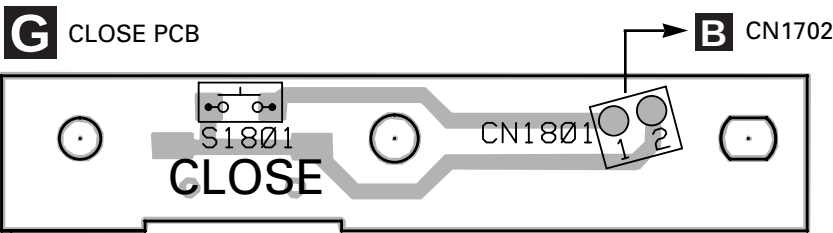
4.5 MOTOR PCB



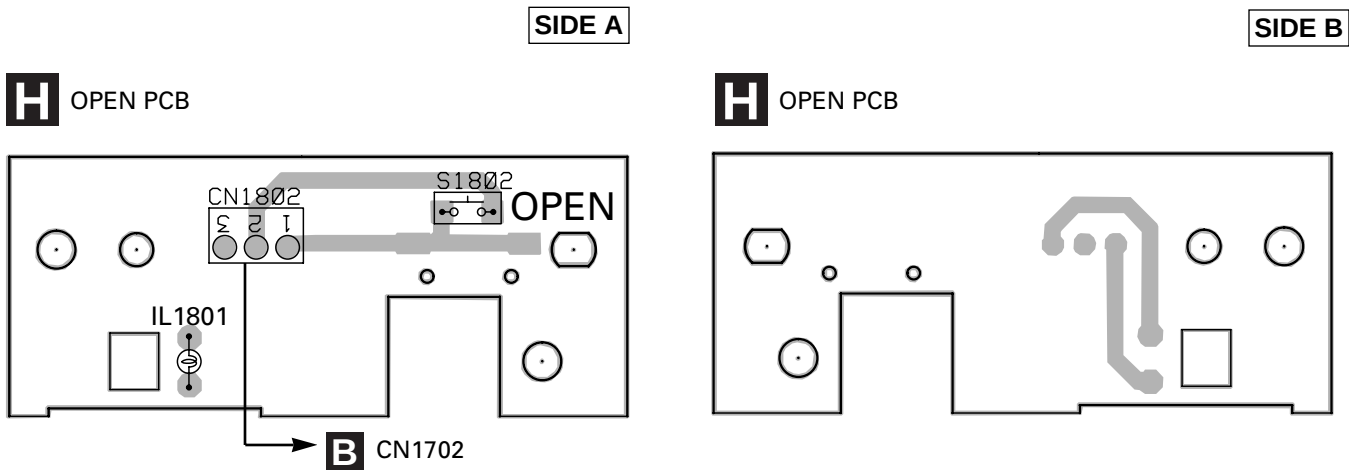
4.6 SWITCH PCB



4.7 CLOSE PCB



4.8 OPEN PCB



5. ELECTRICAL PARTS LIST

NOTES:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/OSOOOJ,RS1/OOSOOOJ

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

====Circuit Symbol and No.===Part Name	Part No.	====Circuit Symbol and No.===Part Name	Part No.
A Unit Number : CWX2014 Unit Name : CD Core Unit		R 605	RS1/16S912J
		R 606	RS1/16S912J
		R 607	RS1/16S912J
		R 608	RS1/16S912J
		R 609	RS1/16S153J
CAPACITORS			
IC 101 IC	UPC2572GS		
IC 201 IC	UPD63702AGF	R 610	RS1/16S153J
IC 301 IC	BA6997FM	R 611	RN1/16SE1502D
IC 302 IC	LB1836M	R 612	RN1/16SE1502D
IC 601 IC	BA4560F	R 613	RN1/16SK5601D
		R 614	RN1/16SK5601D
IC 602 IC	BA4560F		
IC 604 IC	TA78L05F	R 615	RN1/16SK5601D
IC 701 IC	PQ05TZ51	R 616	RN1/16SK5601D
Q 101 Transistor	2SD1664	R 617	RS1/16S562J
Q 102 Transistor	UMD2N	R 618	RS1/16S562J
		R 619	RS1/16S101J
D 701 Diode	1SR154-400		
D 702 Diode	1SR154-400	R 620	RS1/16S101J
X 201 Ceramic Resonator 16.93MHz	CSS1363	R 801	RS1/10S681J
S 803 Switch(MAG)	CSN1028	R 804	RS1/16S622J
VR 802 Semi-fixed 1kΩ(B)	CCP1175	R 805	RS1/16S562J
		R 807	RS1/16S203J
RESISTORS		CAPACITORS	
R 101	RS1/8S100J	C 101	CEV101M6R3
R 102	RS1/8S120J	C 102	CKSQYB104K16
R 103	RS1/16S102J	C 103	CEV470M6R3
R 104	RS1/16S822J	C 104	CKSQYB334K16
R 105	RS1/16S682J	C 105	CCSRCH330J50
R 106	RS1/16S183J	C 106	CKSRYB103K25
R 107	RS1/16S822J	C 107	CEV4R7M35
R 108	RS1/16S333J	C 108	CKSQYB273K25
R 109	RS1/16S683J	C 109	CCSRCH101J50
R 110	RS1/16S134J	C 110	CKSQYB104K16
R 111	RS1/16S273J	C 111	CKSRYB332K50
R 113	RS1/16S222J	C 112	CKSQYB473K25
R 114	RS1/16S103J	C 113	CKSRYB103K25
R 115	RS1/16S103J	C 114	CKSRYB391K50
R 116	RS1/16S102J	C 115	CCSRCH121J50
R 117	RS1/16S163J	C 116	CKSRYB682K50
R 118	RS1/16S163J	C 117	CKSQYB333K25
R 201	RS1/16S104J	C 118	CKSQYB334K16
R 202	RS1/16S104J	C 119	CKSQYB334K16
R 203	RS1/16S0R0J	C 120	CKSQYB224K16
R 206	RS1/16S511J	C 121	CKSQYB224K16
R 301	RA4C332J	C 122	CKSQYB104K16
R 504	RS1/16S511J	C 123	CKSRYB472K50
R 505	RS1/16S101J	C 124	CKSQYB104K16
R 506	RA3C101J	C 125	CCSRCH6R0D50
R 511	RS1/16S102J	C 126	CKSRYB153K25
R 601	RS1/16S103J	C 201	CKSQYB334K16
R 602	RS1/16S103J	C 202	CKSQYB104K16
R 603	RS1/16S103J	C 205	CEV101M6R3
R 604	RS1/16S103J	C 206	CKSQYB224K16

Extension Unit

Consists of

Main PCB

Close PCB

Open PCB

BGH

Unit Number : HWX2034

Unit Name : Extension Unit

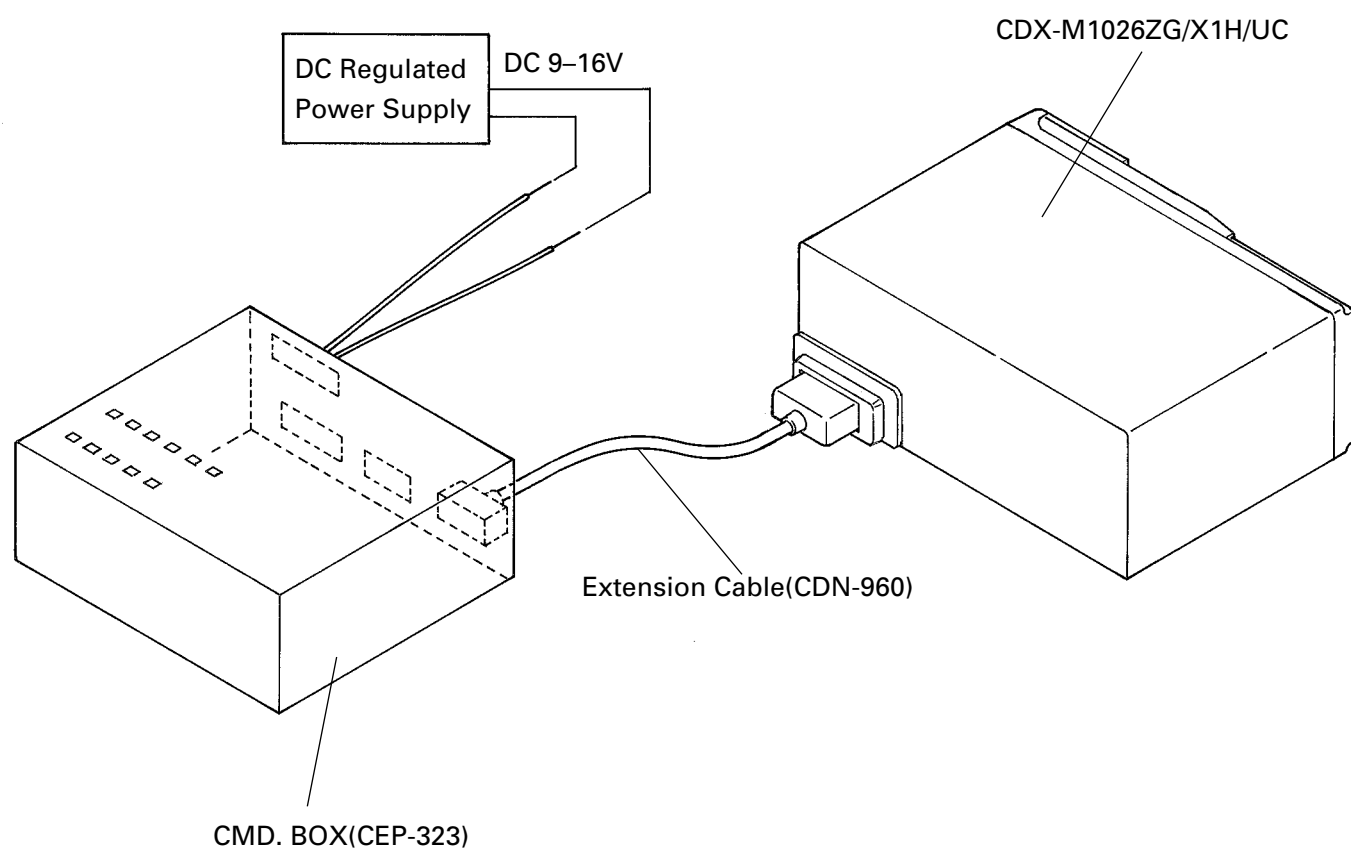
MISCELLANEOUS

IC	1101	IC	BA4560F	L	1701	Inductor	LCTB1R0K3216
IC	1103	IC	TC74HC4066AF	L	1771	Inductor	CTF1418
IC	1701	IC	PD5392C	L	1772	Inductor	LCTB1R0K2125
IC	1702	IC	S-29220A	L	1901	Choke Coil 1.4mH	CTH1129
IC	1703	IC	PA0054AM	X	1701	Radiator 6.290MHz	CSS1451
IC	1771	IC	XC68HC56FN	X	1771	Radiator 4.00MHz	CSS1320
IC	1921	IC	PAJ002A	S	1801	Switch(CLOSE)	CSN1031
Q	103	Transistor	DTC323TK	S	1802	Switch(OPEN)	CSN1031
Q	104	Transistor	DTC323TK	IL	1801	Lamp 14V 65mA	CEL1350
Q	1105	Transistor	IMD3A	EF	101		CCG1067
Q	1106	Transistor	IMD3A	EF	102		CCG1067
Q	1110	Transistor	2SD1048	EF	1102		CCG1067
Q	1701	Transistor	DTA124EK	RESISTORS			
Q	1702	Transistor	IMD3A	R	107		RS1/10S104J
Q	1703	Transistor	2SD601A	R	108		RS1/10S104J
Q	1704	Transistor	2SC4116	R	109		RS1/10S0R0J
Q	1705	Transistor	2SB1242	R	110		RS1/10S0R0J
Q	1921	Transistor	2SB1184F5	R	111		RS1/10S0R0J
Q	1951	Transistor	DTA124EK	R	112		RS1/10S0R0J
Q	1952	Transistor	2SB1335A	R	113		RS1/8S151J
Q	1953	Transistor	FMW1	R	114		RS1/8S151J
D	1101	Diode	RD4R7M(B1)	R	117		RS1/10S164J
D	1102	Chip Diode	MA151WK	R	118		RS1/10S164J
D	1103	Chip Diode	MA151WK	R	1109		RS1/10S102J
D	1105	Chip Diode	MA151WA	R	1110		RS1/10S224J
D	1701	Diode	MA157A	R	1111		RS1/10S224J
D	1702	Chip Diode	MA151WA	R	1113		RS1/10S105J
D	1771	Diode	MA3180(M)	R	1114		RS1/10S105J
D	1772	Diode	MA3180(M)	R	1115		RS1/10S103J
D	1901	Diode	SM-3-02	R	1119		RS1/10S154J
D	1902	Diode	ERA15-02	R	1120		RS1/10S103J
D	1903	Diode	ERA15-02	R	1121		RS1/10S103J
L	101	Inductor	LCTB6R8K3216	R	1122		RS1/10S102J
L	102	Inductor	LCTB6R8K3216	R	1701		RS1/10S103J
L	1102	Inductor	LCTB6R8K3216	R	1702		RS1/10S433J

30

6. ADJUSTMENT

6.1 CONNECTION DIAGRAM



6.2 CD ADJUSTMENT

1)Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND. If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.
- Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND. Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status. If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.
- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- This unit is adjusted in a combination with the CD controller tool(CEP-323). Each regulator key should be operated at the unit. With the CEP-323 taken up for reference, a description will be given below concerning how to enter into the test mode, including key operations. The key in the adjustment text is also one of the CEP-323 keys.
- How to enter into the test mode
 1. Setup the POWER switch ON and PMM switch RUN of CEP-323.
 2. DC Regulated Power Supply power ON.
 3. Pressing the RESET switch of CEP-323.
 4. Wait for 10 seconds.
 5. Pressing the TESTIN switch of CEP-323.
 6. Insert the magazine assy.
- Resetting the test mode
DC Regulated Power Supply power OFF.
- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.
 - *During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.
 - *The unit will not load a disc.
When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.
- When loading and unloading discs during adjustment procedures, always wait for the disc to be properly clamped or ejected before pressing another key. Otherwise, there is a risk of the actuator being destroyed.
- Turn power off when pressing the button **TR+** or the button **TR-** key for focus search in the test mode. (Or else lens may stick and the actuator may be damaged.)
- SINGLE/4TRK/10TRK/32TRK will continue to operate even after the key is released. Tracking is closed the moment C-MOVE is released.
- JUMP MODE resets to SINGLE as soon as power is switched off.

6.3 CHECKING THE GRATING

● Checking the Grating After Changing the Pickup Unit

•**Note :**

Unlike previous CD mechanism modules the grating angle of the pickup unit cannot be adjusted after the pickup unit is changed. The pickup unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted pickup unit for the CD mechanism module. Changing the pickup unit is thus best considered as a last resort. However, if the pickup unit must be changed, the grating should be checked using the procedure below.

•**Purpose :**

To check that the grating is within an acceptable range.

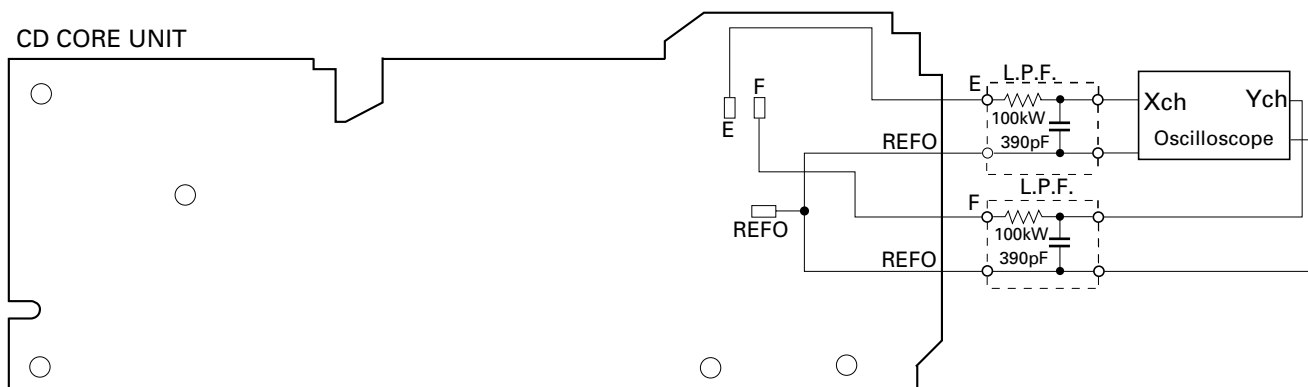
•**Symptoms of Mal-adjustment :**

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or track searching taking a long time, may appear.

•**Method :**

- | | |
|----------------------|---------------------------|
| •Measuring Equipment | •Oscilloscope, Two L.P.F. |
| •Measuring Points | •E, F, REFOUT |
| •Disc | •ABEX TCD-784 |
| •Mode | •TEST MODE |

CD CORE UNIT



•**Checking Procedure**

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the **TR+** and **TR-** buttons, move the pickup unit to the innermost track.
3. Press key **5** to close focus, the display should read "91". Press key **4** to implement the tracking balance adjustment the display should now read "81". Press key **5** 4 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75° . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the pickup unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

•**Note**

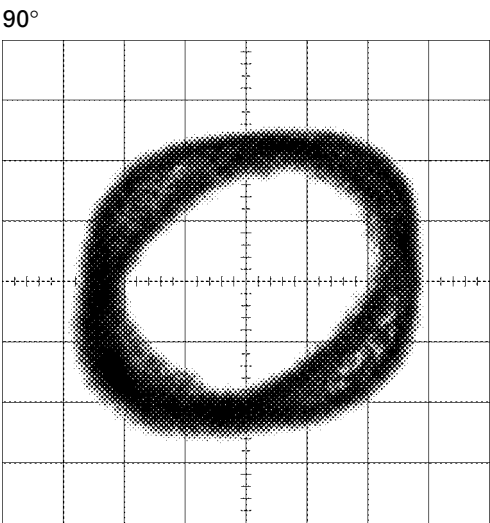
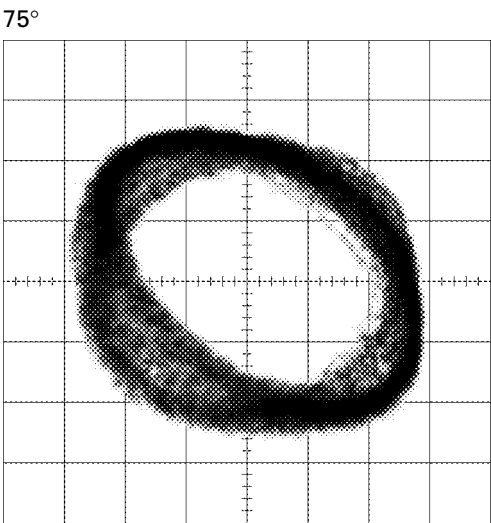
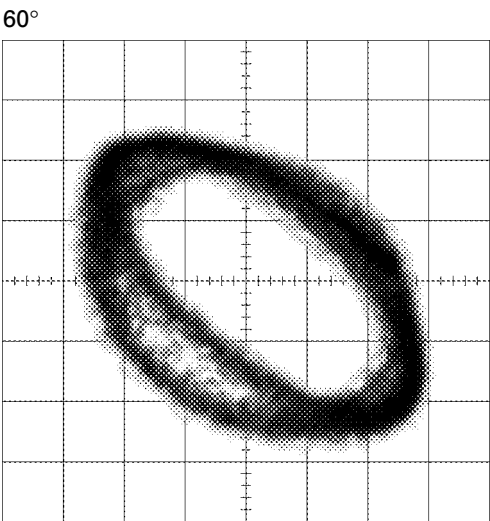
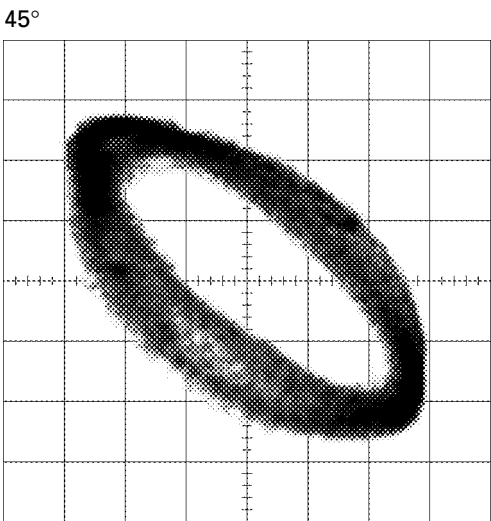
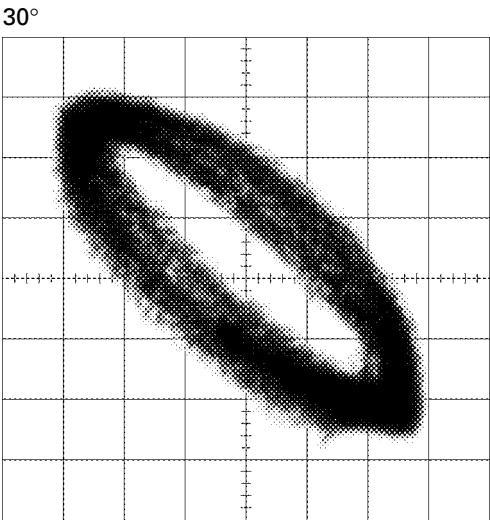
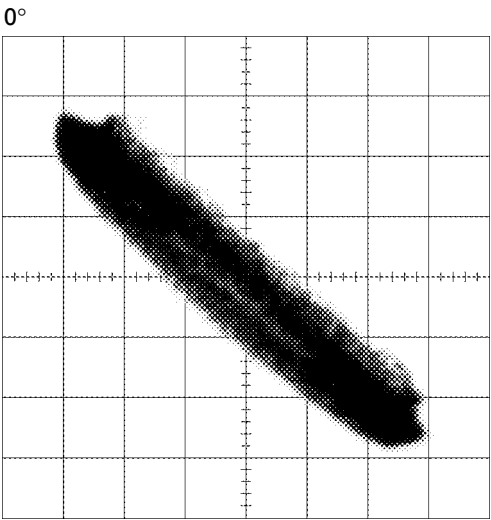
Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

•**Hint**

Reloading the disc changes the clamp position and may decrease the "wobble".

Grating waveform

Ech → Xch 20mV/div, AC
Fch → Ych 20mV/div, AC



6.4 ADJUSTMENT OF ELEVATION WHEN THE CD CORE UNIT HAS BEEN REMOVED FOR MAINTENANCE

•Note :

Unlike the conventional mechanisms, the new mechanism detects the height of the stage using slide-variable resistance.

To absorb dislocation of the stage height caused by differences in the mechanism and the CD core unit, adjustment must be made for each CD-mechanism module using a variable resistor.

Normally, readjustment is not needed, as this has been adjusted at the factory. However, adjustment of elevation is required according to the procedure explained below if an elevation error has occurred or if the CD core unit has been removed.

•Purpose :

To adjust and confirm whether or not elevation operates correctly.

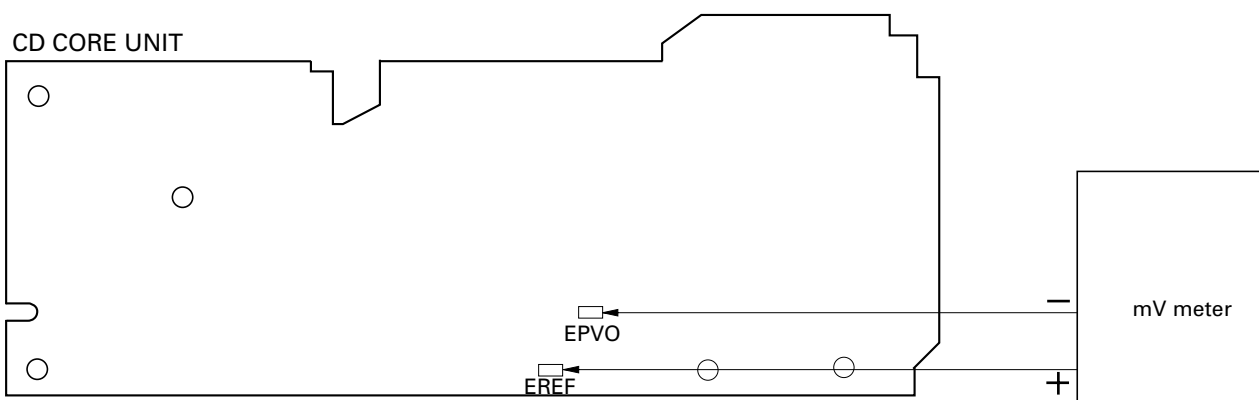
•Adjustment Method :

•Measuring Equipment: Millivoltmeter

•Measuring Points : EREF, EPVO

•Setting : Without a magazine in Test mode

With the mechanism placed upside-down (Place the CD mechanism module so that the CD core unit is above.)



•Confirmation Procedure

1. Press key **10** enter Test mode, then select Multi-CD player.

2. Press key **3** to enter Mechanism Test mode.

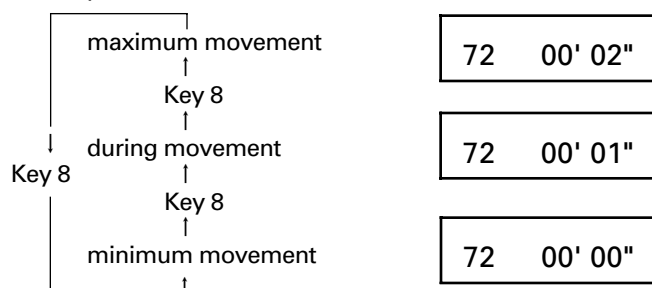
3. Press key **8** twice to specify the amount of movement.

Examples of display

' "

72 00' 00"

The amount of movement changes each time key **8** is pressed.



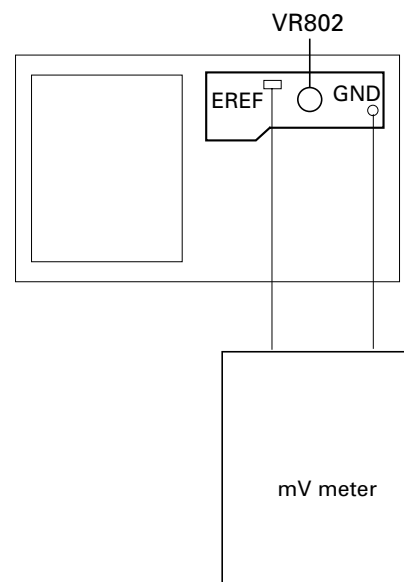
		Examples of display
4.	Press key 5 to set ELV/TRAY mode to TRAY.	72 01' 02"
5.	Press key TR+ to release the clamp and return the tray to the magazine.	Release the clamp
6.	Press key 5 to enter Elevation Move mode.	72 00' 02"
7.	Use key TR+/TR- to operate elevation and set if to the lower stage (seventh to twelfth discs) so that elevation is set to the "R" mark (Fig. 1).	
8.	Make the adjustment. Use VR802 to adjust the difference in potential between EREF and EPVO to 0 ±20 mV.	
9.	When adjustment is completed, press key 1 to exit Mechanism Test mode.	72 00' 02"
10.	Confirm operation of the mechanism. Place the mechanism horizontally (CD core unit below). Take care not to short-circuit the PCB.	' "
11.	Confirm the height of the stage. Use the 10 key to select Disc No.10. Check if the stopper bend of the clamp lever is engaged in the groove of the frame stopper (Fig. 2-3).	04 00' 00"
•Note : The stopper bend will be pressed downward into the groove for final clamping. Confirm the engagement position of the stopper bend. •If the stopper bend is engaged in the center and pressed downward, adjustment is completed. Go to step 15. •If the stopper bend is dislocated, check the amount of dislocation by following steps 12 to 14.		

12. To see the amount of dislocation, place the mechanism upside-down.
If the stopper bend has been dislocated in the direction of the seventh CD, turn VR802 to the left(Fig. 2).

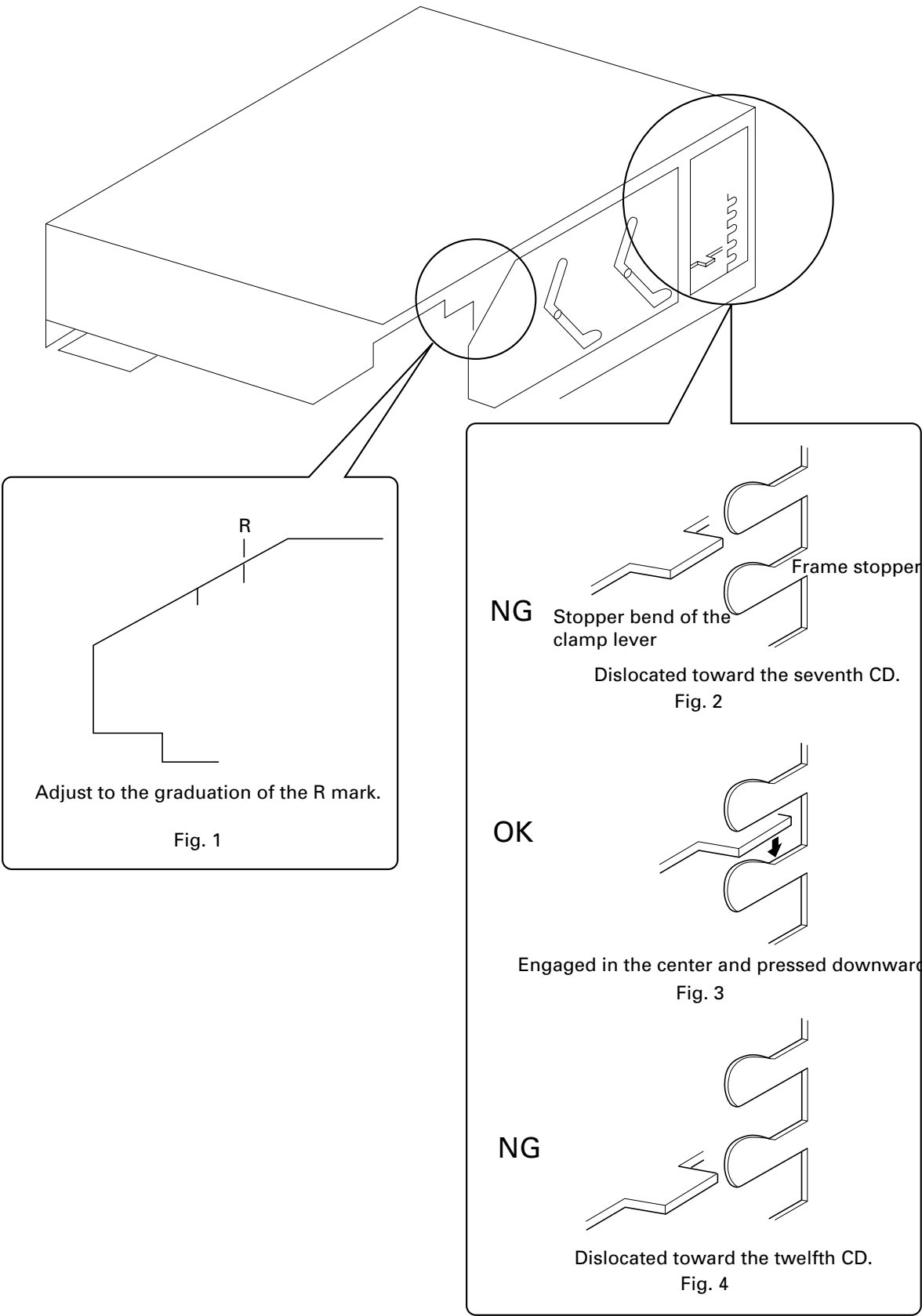
To lower the stage toward the twelfth step by 0.1 mm, reduce the voltage of EREF (adjusted in step 8) by 20 mV.

If the stopper bend has been dislocated in the direction of the twelfth CD, turn VR802 to the right(Fig. 4).

To raise the stage toward the seventh step by 0.1 mm, increase the voltage of EREF (adjusted in step 8) by 20 mV.



13. Place the mechanism horizontal. Go back to step 11 to reconfirm the stage height.
14. When adjustment of the stage height is completed, proceed as follows:
15. Open the door and then eject the magazine assy.
16. Once operation of the mechanism has stopped, turn the power OFF.
17. Wait more than one minute after the power is turned off, then turn the power ON and insert a magazine.
18. Check if the mechanism operates correctly with the first, sixth, seventh and twelfth CDs.
19. If the mechanism operates properly, adjustment is completed. If the mechanism operates improperly, make the adjustment again.



7. GENERAL INFORMATION

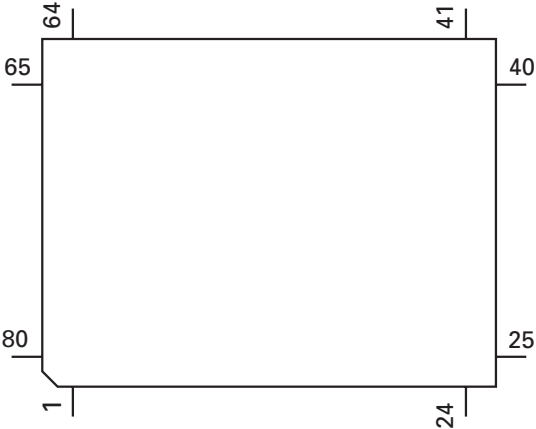
7.1 IC

● Pin Functions (PD5392C)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	VDIN	I		Power supply short sensor input
2	DORILM	O		Eject door illumination output
3-5	NC			Not used
6	XA0	O	C	Control signal distinguishing data from microcomputer
7	XSCK	I/O	C	LSI clock input/output
8	XSO	O	C	LSI data output
9	XSI	I		LSI data input
10	XSTB	I		CD LSI strobe output
11	XRST	O	C	CD LSI reset output
12	DOPNSW	I		Door open switch input
13	DCLSSW	I		Door close switch input
14	DOFINT	I		Not used
15	DONINT	I		Not used
16	NC			Not used
17	DCE	O	C	Not used
18	ECE	O	C	Chip select output for EEPROM
19	ECK	O	C	Serial clock output for EEPROM
20	EDO	O	C	Serial data output for EEPROM
21	EDI	I		Serial data input from EEPROM
22	DLCINT	I		Class 2 bus interrupt input from IC1771
23	MAG	I		Magazine lock switch input
24	CNVSS			GND
25	RESET	I		Reset input
26	POWER	O	C	CD +5V control
27	CONT	O	C	CD servo driver power control output
28	XIN	I		Crystal oscillating element connection pin
29	XOUT	O		Crystal oscillating element connection pin
30	VSS			GND
31	DET	I/O	C	Watch dog IC interface input/output
32	WD1	I/O	C	Watch dog IC interface input/output
33	WD2	I/O	C	Watch dog IC interface input/output
34	AUDOUT	O	C	Not used
35	MUTEP	O	C	Not used
36-41	NC			Not used
42	DLCRST	O	C	Class 2 bus interface output for IC1771
43	DLCCS	O	C	Class 2 bus interface output for IC1771
44	DLCCE	O	C	Class 2 bus interface output for IC1771
45	DLCA0	O	C	Class 2 bus interface output for IC1771
46	DLCR/W	O	C	Class 2 bus interface output for IC1771
47-54	D7-D0	I/O	C	Class 2 bus interface input/output for IC1771
55	NC			Not used
56	6/12	I		6/12 switching input
57	NC			Not used
58	MIRR	I		CD mirror detection input
59	LOCK	I		CD spindle lock input
60	FOK	I		CD FOK signal input
61	CSEL	I		Compression select
62-64	NC			Not used
65	I1,3	O	C	Motor driver control output
66	I2	O	C	Motor driver control output
67	I4	O	C	Motor driver control output
68	CDMUTE	O	C	CD mute control output
69	ADENA	O	C	A/D reference voltage output
70	TESTIN	I		Test program mode input
71	VCC			Power supply

Pin No.	Pin Name	I/O	Format	Function and Operation
72	VREF	I		A/D converter reference voltage input
73	AVSS			(A/D converter GND)
74	BSENS	I		Back up sense input
75	U/L	I		ELV position switch input
76	DISK			Disc detector and 8/12cm detect
77	EPVO	I		Slide voltage input for ELV detector
78	EREF	I		ELV reference voltage input
79	MSW	I		Disc detect timing and tray position input
80	TEMP	I		Not used

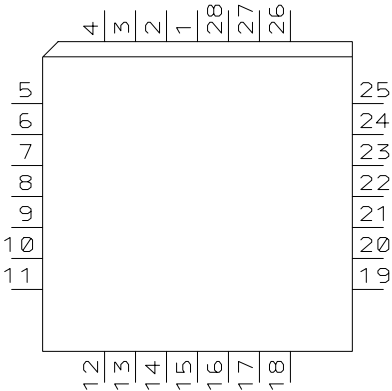
*PD5392C



Format	Meaning
C	C MOS

IC's marked by* are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

*XC68HC56FN



● Pin Functions (XC68HC56FN)

Pin No.	Pin Name	I/O	Function and Operation
1	VSSA		Analog ground terminal
2	LOTI	I/O	Logic out transceiver input/output
3	OSC2	O	External reference connection output
4	OSC1	I	External clock connection input
5	DLCRST	I	DLCP reset signal input
6	DLCCS	I	DCLP chip select signal input
7	DLCCE	I	DCLP chip enable signal input
8	DLCA0	I	Address select signal input
9	DLCR/W	I	DLCP data transfer control input
10	DLCINT	O	DCLP interrupt request input
11	VDD		Digital power supply terminal
12-19	D7-D0	I/O	Bidirectional three-state data bus input output
20	VSSD		Digital ground terminal
21	LOAD	I	External bus load connection input
22	BUS	I/O	Serial data signal input/output
23	VBATT		Transceiver power supply terminal
24	PSEN	O	Power supply status signal output
25	VCC		Analog power supply terminal
26	REXT2	I	Transceiver biasing resistor input
27	REXT1	I	Transceiver biasing resistor input
28	LITO	I/O	Logic in transceiver input/output

7.2 DIAGNOSIS

7.2.1 DISASSEMBLY

● Removing the Upper Case(Fig.5)

2 Remove the three screws, and then remove the Cover.

1 Remove the ten screws, and then remove the Upper Case.

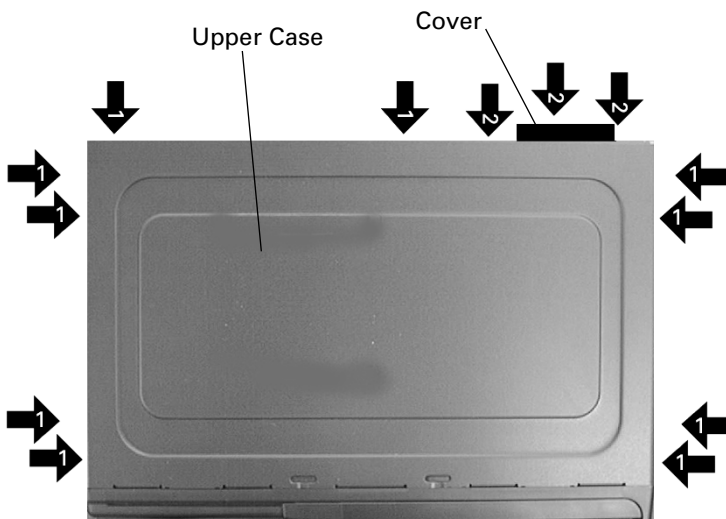


Fig.5

● Removing the CD Mechanism Module (Fig.6)

- 1.Remove the four dampers.
- 2.Remove the two springs.
- 3.Disconnect the connector and then removing the CD Mechanism Module.

● Removing the Grille Assy(Fig.6)

- 1.Remove the two screws.
- 2.Press the two tabs indicated by arrows and then pull out the Grille Assy.

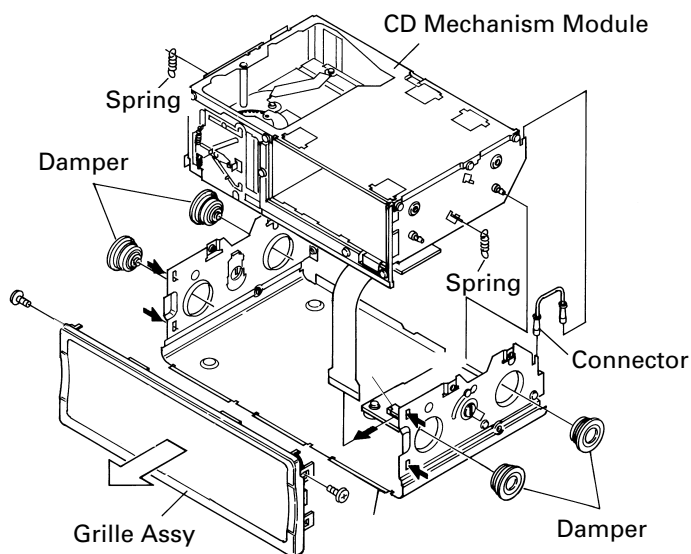


Fig.6

● Removing the Main PCB(Fig.7)

1 Remove the two screws.

2 Remove the screw.

3 Stretch the claw indicated by arrow and remove the main PCB.

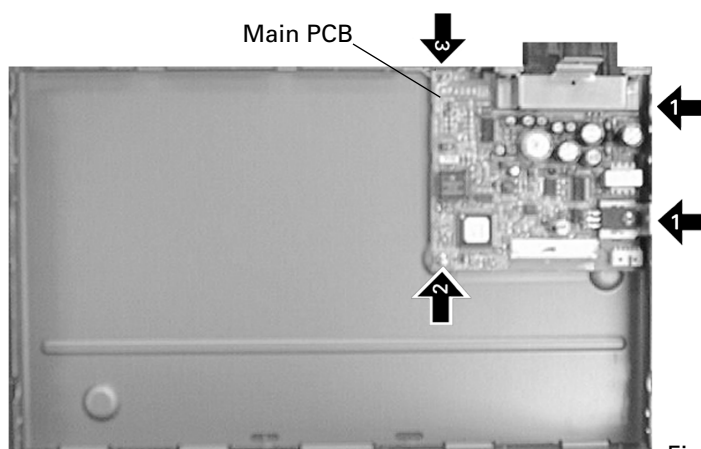


Fig.7

● Removing the Pickup Unit(Fig.8)

- 1.Attach the Short Pin onto the Flexible PCB of the Pickup Unit.(Fig.8)
- 2.Remove the Flexible PCB from the connector.(Fig.8)
- 3.Remove the Torsion Spring which is pressed against the leading edge of the Feed Screw.(Fig.9)
- 4 Remove the Screw and Pulley Cover.(Fig.9)
- 5.Remove the Belt and the Pickup Unit with the Feed Screw still attached.(Fig.9)
- 6.Lift the Tabs of the rack section of Holder and remove the Feed Screw. While doing so, be careful not to lose the Bearings on the ends of the Feed Screw.(Fig.9)

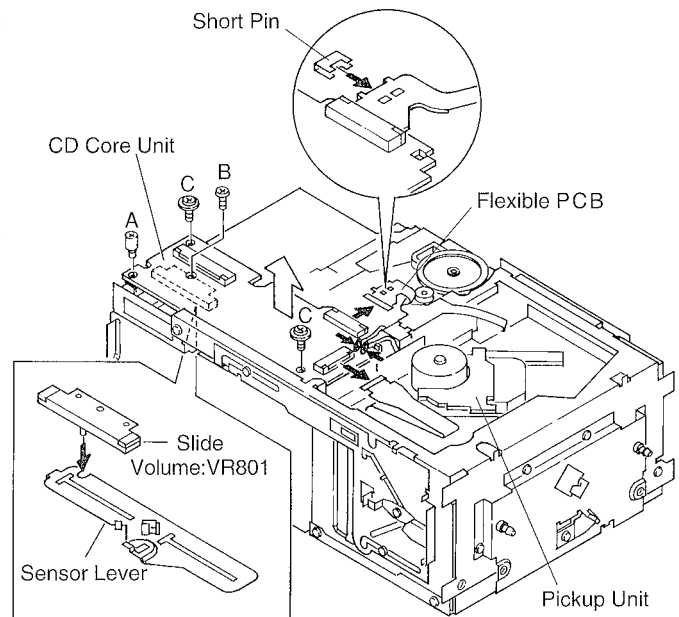


Fig.8

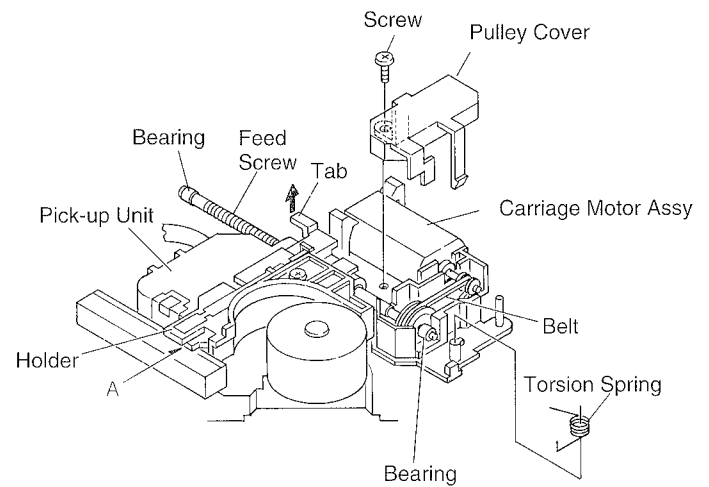
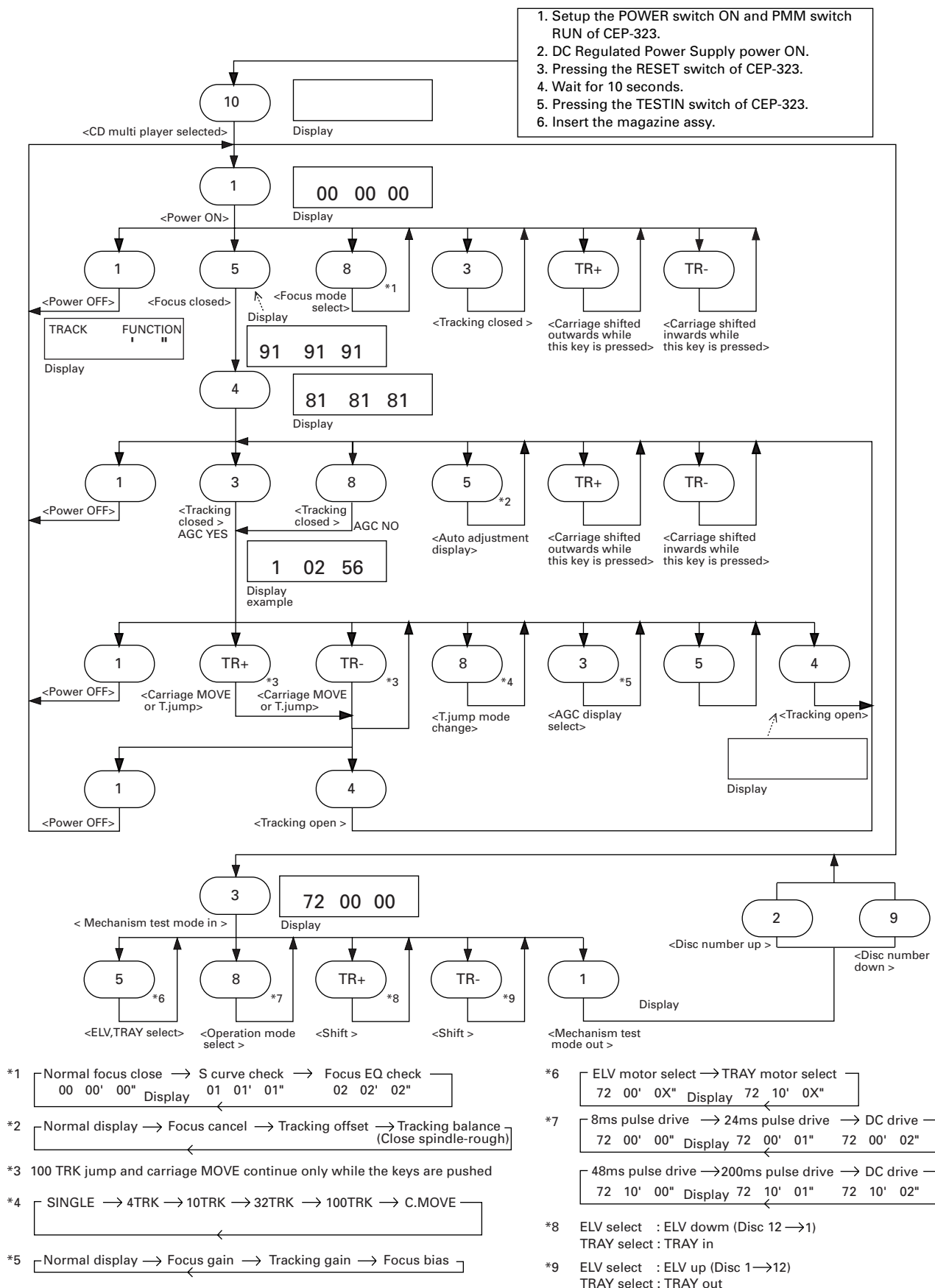


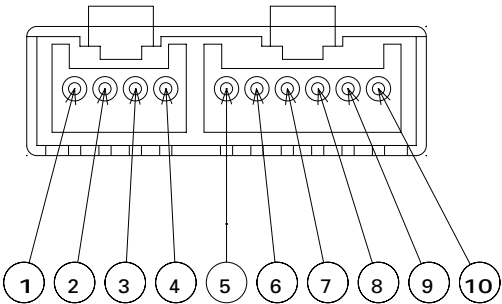
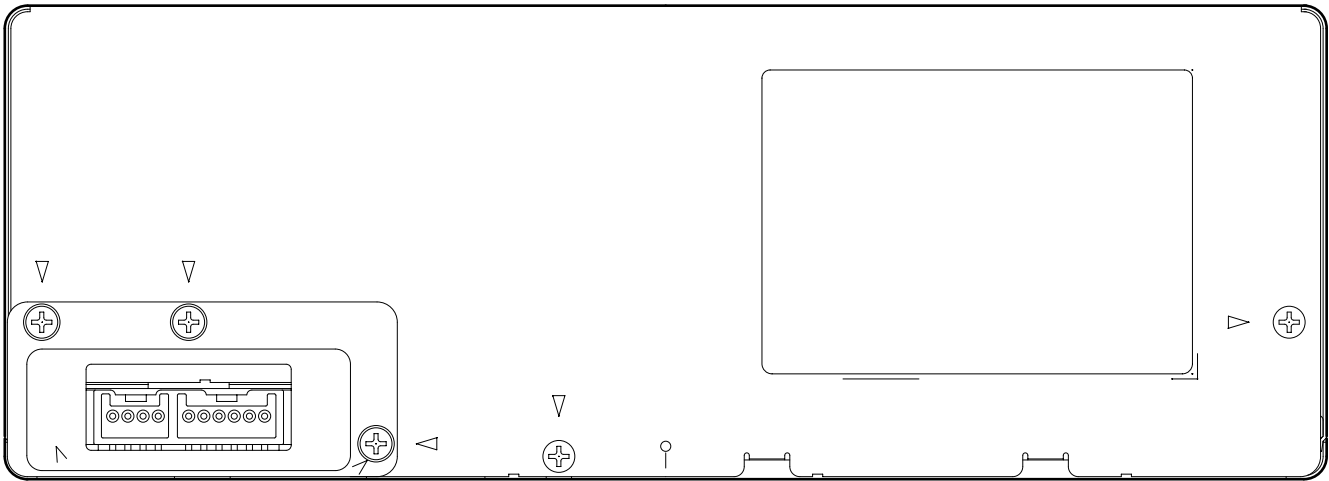
Fig.9

7.2.2 TEST MODE

● Flow Chart



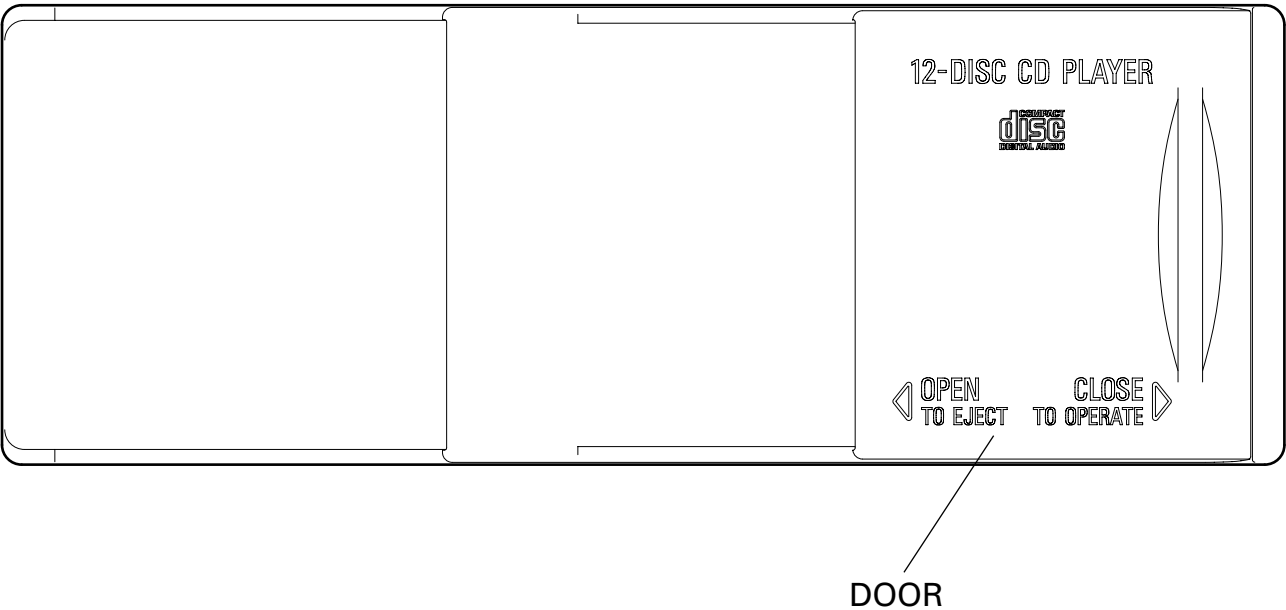
7.2.3 CONNECTOR FUNCTION DESCRIPTION



No.	FUNCTION
1	L
2	R
3	COMMON
4	DRAIN
5	BATT
6	NC
7	GND
8	NC
9	CLASS II
10	CLASS II

8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATION



8.2 SPECIFICATIONS

General

Power source	13.8 V DC (9.0 – 16.0 V allowable)
Grounding system	Negative type
Dimensions	261 (W) × 94 (H) × 191 (D) mm
Weight	2.3 kg

CD player

System	Compact disc audio system
Usable discs	Compact disc
Signal format	Sampling frequency: 44.1 kHz
	Number of quantization bits: 16; linear
Signal-to-noise ratio	75 dB or more
Dynamic range	80 dB or more
Distortion	0.5 % or less
Output level	800mV–1500mV
Number of channels	2 (stereo)